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THE NATURE OF KNOWING

THE NATURE OF KNOWING

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Preface

IN the following pages I have set forth in essay form the fruit of six years' research upon the problem of knowing. These researches were pursued for the most part at Oxford, and the present essay is a restatement in, I hope, more explicit and more adequate terms of the argument contained in a dissertation which I submitted for the degree of D.Phil. in 1926. I decided not to publish the dissertation itself. It was lengthy, cumbersome, and—most serious defect of all—contained so much historical detail as to bewilder the reader and to distract his attention from my main argument. I thought it wiser, therefore, to discard the historical matter altogether, especially as most of it was already familiar enough to any serious student of philosophy. In the argument of the present essay there are, for this reason, few historical references; though a reader who is acquainted with the philosophical speculations both of the past and of the present will quickly realize my indebtedness to others. As to the past, I find my debt greatest to Plato, Aristotle, Descartes, Spinoza, and Kant.

I have been singularly fortunate in my teachers throughout. In connection with the present work I have to express my thanks for suggestions to Professor J. A. Smith and the Master of Balliol (Dr. A. D. Lindsay), the examiners of my dissertation; to Professor H. A. Prichard; to my colleague, Dr. A. C. Ewing; to Professor H. H. Joachim; and, finally, to the Provost of Oriel (Dr. W. D. Ross). The three latter gentlemen have aided me very considerably, and I am much obliged to them. My thanks are due to my publishers and their reader for valuable guidance; also to my sister, Miss E. G. Aaron, for helping with the manuscript and proofs. Finally, I am grateful to the Court of the University of Wales for electing me a Fellow of the University, and to the Provost and Fellows of Oriel College, Oxford, for a special research grant.

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YNYSTAWNE, SWANSEA

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Introduction

It will be the aim of this essay to describe as accurately as possible the nature of knowing. We say 'knowing' rather than 'knowledge' because the two terms are not always synonymous. In everyday language the term 'knowledge' may mean one of three things: firstly, the actual knowing of the object; secondly, the whole object known; and thirdly, a stock of information possessed by the mind which it can recall whenever the necessary conditions are realized. In this essay, our immediate concern is with knowledge in the first sense. It is our purpose to describe knowing; though, obviously, frequent reference to knowledge in the other two senses will be necessary.

Now the strictest description would be definition, but no satisfactory definition of knowing is available. This fact may be attributed to one of two causes. It may be held that knowing is something elemental and therefore cannot be defined in terms of anything other than itself. For in definition—so it may be argued—we express the essential feature or features of the thing defined in terms whose meaning is already familiar to us. Thus it belongs to the essential nature of a triangle that it should consist of three straight lines in certain definite spatial relations, and the definition of a triangle is only possible when we know, amongst other things, the meaning of the phrase 'a straight line'. Now if I were to try to define knowing by saying that it is, for example, the co-presence of mind and object, this would presuppose a knowledge of what I wanted to define, because, if I were asked what the word 'mind' signified here, the only possible answer would be that mind in this context is the knowing power; that is to say, my definition would be circular. And in this manner, since knowledge is something elemental, every attempt at its definition, it may be argued, would necessarily involve the use of the very term we wish to define, and, in so far, would prove invalid.

In the second place, the mind seeks definitions because it hopes thereby to gain both in thought and statement the precision that it needs. But this clearly implies that definition

is possible only when we already possess a certain acquaintance and even familiarity with the thing to be defined. Definition is the crystallization of our thoughts about any matter by expressing them in terms which are already precisely fixed in our minds. It can occur only at an advanced stage of knowing. Now with regard to knowledge of knowing itself we can hardly claim to be at a sufficiently advanced stage to attempt definition. For though we are all acquainted with knowing—at least, we believe that we know frequently—yet when we begin to reflect we find it difficult to make clear to ourselves the nature of this knowing, and the more we reflect, the more difficult does the task become. None the less, in order to define knowledge it would seem necessary for us to possess some prior notion of what it essentially is, for it is only then that we can attempt to clarify this notion still further by definition, if, that is to say, we grant that definition is at all possible in this case. But at our present uncritical stage, we have so vague a notion of what we mean by knowing that immediate definition is out of the question. For these reasons, therefore, it is impossible at this point simply to define knowing and, having thus completed our task, put down the pen.

Realizing that definition is here out of the question, we must proceed to our goal, namely, the accurate description of knowledge, by a different route. The procedure we propose to adopt is the careful scrutiny of what are taken to be examples of knowing in order that by such scrutiny we may, if possible, lay bare the nature of the knowing involved. We shall, therefore, find it necessary as we proceed to subject such instances of knowing to a critical examination, and to inquire into the validity of the claims made for them. We shall search for those experiences which are in the fullest and completest sense instances of knowing, since it is the scrutiny of such that will reveal most to us about its inmost nature. Having discovered such examples, we shall then seek by fair and accurate analysis to describe the knowing contained therein.

Thus it will be understood that our primary aim is not to explain knowing, but rather to describe it. The question, 'How

does knowing occur?' can be answered in one of two ways. Firstly, we may describe the process or processes present in the mind when it knows; secondly, we may set forth a thorough-going metaphysic so as to show the ultimate source of such knowing and the nature of the universe within which alone knowing can become possible. The second answer would provide an explanation of knowledge, whereas the first would be descriptive only. Now it is not the primary aim of this essay to supply the reader with 'explanations' in this sense, nor to answer these profounder questions. The attitude we intend to adopt is that of 'first things first'; since it seems foolish and rash to seek for the metaphysical explanation of that which as yet we cannot even describe. At the same time, we readily grant the possibility that no completely satisfactory account of knowledge can ultimately be given without a metaphysic of some kind or other. The distinction, that is to say, between description and explanation may not hold in the last resort; every description to be complete may also have to be an explanation. Nevertheless, as we begin on our search for an adequate description of knowledge, it is as well to point out some of the more obvious truths first, and to grasp firmly the things that lie, comparatively speaking, ready to hand, before venturing into the cavernous depths of metaphysics. For then we shall at least safeguard ourselves against the unhappy fate of those who plunge heedlessly into the gloomy darkness of deep speculation without first securing for their guidance such illumination as a careful study of what lies in the open can provide. We therefore make no apology for the fact that this essay is mostly 'surface' work. The reader should not look to it for ultimate explanations.

But these words must not be taken to mean that the limited task before us is an easy one; on the contrary, real difficulties present themselves from the first. No sooner do we begin upon our search than we meet with a serious problem, namely, what may and what may not be taken for granted at the outset.

It is sometimes supposed that philosophy is unlike the particular sciences in that it takes nothing for granted. This state-

ment, however, is not absolutely true. Philosophy, perhaps, takes less for granted than does any particular science; nevertheless, it always begins by assuming certain positions as yet undemonstrated. In this matter of epistemology, for example, unless one is a confirmed and complete sceptic, one must take the fact of knowledge itself for granted; while actually, as has been pointed out long since, even the sceptic who flatly and explicitly denies this fact is at the very moment of his denial implicitly presupposing it. For he is claiming to know that there is no such thing as real knowledge. Either he does not know this, and then his flat denial becomes impossible; or he does, and then he himself is possessed of knowledge—a fact that contradicts his own denial of it. The case of the agnostic who doubts without definitely denying the actuality of knowledge is different. He may refuse to assert anything whatever, preferring to suspend his judgement throughout. He would not then be presupposing the fact of knowledge; but neither would any inquiry ever be possible in his case. To carry out an inquiry we must make assertions which we hold or imply to be true.¹ In order to philosophize significantly, therefore, it is necessary to take knowledge for granted from the outset; we already believe that the human mind is capable of knowing.

Thus we find it essential in an effort to describe the nature of knowing to start from a basis which is taken as true, without being demonstrated to be such. Obviously, we should assume in this way only the barest minimum necessary, and we must, furthermore, make clear and definite to ourselves what exactly it is which we do thus assume. In the first place, as we have seen, we take for granted the fact of knowing. Our quest is one into which a person who refuses to make this assumption cannot enter. We may be sceptical about many epistemological tenets

¹ Some of these assertions may be mere opinions about which we do not feel completely certain. Yet judgements of probability presuppose some certainty. And, in any case, when we express an opinion, we imply that it may be true—that is to say, that we may have gained knowledge, which in turn implies a belief in the *possibility* of our gaining knowledge.

which are now generally accepted as true, but we cannot be sceptical about the fact of knowing itself if we wish to proceed with our inquiry; for by such scepticism we should be depriving ourselves of the one faculty whereby the pursuit of the inquiry becomes possible. If we assert at the outset that we cannot know, it is then foolish to try to discover what knowledge could ever be, since the discovering would itself be an example of knowing.

Belief in the actuality of knowing as a fact of human experience is thus essential for the further progress of our inquiry; but if we hold this belief it follows that we already know something as to the real nature of knowing. The truth seems to be that, however far back we go, the inquiry into its nature is never begun from a point at which we know absolutely nothing about it, as if our minds were in this respect vacant and empty, waiting to be filled. On the contrary, since in our inquiry we propose to proceed by seeking for valid examples of knowing amongst our experiences, we could never begin on this task did we not already possess some method whereby we might test the various experiences, so as to discover which were true instances of knowing and which not. This method may be modified frequently as we proceed, but the capacity for testing must be in our possession from the outset of our inquiry; for otherwise we should be incapable of recognizing any instance of knowing to be such. And, as is evident on reflection, what we really mean here is that we could never pick out a single instance of knowing did we not know beforehand some one or many of its characteristics.

Now what characteristic or characteristics do we look for in an experience when we seek to discover whether it be an instance of knowing or not? First of all, clearly, we demand that the experience should give us assurance amounting to conviction. Here, it would seem, is as universal a feature of knowing as any. Knowledge is always marked by unwavering conviction, and if we doubt, however slightly, we realize that our state then *qua* doubting is not one of knowing. That experience alone can be termed 'knowing' in which we are convinced

beyond the shadow of a doubt.¹ Thus our first test as to whether we are knowing or not at a particular moment is this one: the presence or absence of a feeling of conviction. Furthermore, the judge as to whether I now possess or do not possess this conviction is, of course, myself. I affirm that such and such an experience is a true instance of knowing, simply because I am convinced that it is so. In this matter the mind itself has the last word. We are not dealing for the moment with the more difficult question as to the demands that must be satisfied before the mind can attain to such conviction, for example, the demand for consistency and such like. We are merely pointing out the fact that knowing invariably involves a feeling of conviction, and that the presence or absence of the latter is indeed our first test of the presence or absence of knowledge.

From the outset, therefore, we take it to be true, firstly, that knowing is a fact, and, secondly, that a characteristic mark of it is a sense of certainty. There is no knowing without a feeling of conviction. At this point, however, an important reservation must be made, namely, that a like feeling of conviction seems frequently to occur when actually we are not knowing. Consequently, it is in itself no infallible sign of knowledge. This greatly complicates our problem, for though admittedly there can be no knowing without conviction, there may yet (it would seem) be conviction without knowledge; that is to say, we may feel sure that we are knowing at a time when actually, as we ourselves may be brought to confess later, we are not knowing.²

¹ Incidentally, it is because this is so that one finds so much difficulty with the phrase 'knowing vaguely'. Knowing is such, we feel, that it leaves no room for vagueness. If an experience is marked by a sense of vagueness, then it is not knowledge, whatever else it be. It does not give conviction.

² At present, however, we have no right to be dogmatic on this matter. For in spite of first appearances, the question may still be asked: Is our acquiescence in error absolutely identical in character with the conviction we feel when knowing, for instance, that two parallel straight lines will never meet? We must postpone the discussion of this question. We shall return to it when considering

If, on every such occasion, we really were knowing, there would be no difficulty in discovering any number of instances, but unfortunately we often believe we know when we do not. It is this fact of error which makes the problems of epistemology so desperately difficult.

For, even at this early stage, we realize that knowing cannot involve error. That is to say, if in any experience we were convinced of something and thought ourselves to be actually knowing but later realized that we had been in error, we should not continue to think of the first experience as an instance of knowing. Consequently, in seeking for an example of knowing, it is not correct to accept as such any chance experience in which we find ourselves convinced of something. On the contrary, such an experience may easily fail to provide us with real knowledge, in spite of the fact that at the time we seem to be convinced that it does. And therefore we need to examine such instances carefully and not conclude too hurriedly that they are sound examples of knowing; we need to scrutinize our convictions and to hold our judgements in suspense—that is to say, to become sceptical, though not with regard to knowing in general, since, as we have seen, such scepticism would make all advance impossible, but only with regard to these supposed instances of knowing. We must learn to stand aloof from them so as to examine them in as detached a manner as possible. And as we proceed with this examination, we may hope to gain greater insight into the nature of knowing itself.

These considerations seem to necessitate a distinction which we propose to consider more fully at a later stage of the argument. We must distinguish between a knowing, on the one hand, which, if it occur at all, is infallible, and a cognitive experience, on the other, which is definitely fallible. And this distinction is all the more necessary if we say that the cognitive experience may contain within it infallible knowing. Our cognitive experiences are fallible, yet they give us occasionally, we must believe, the character of error. On a *prima facie* view, however, it seems almost obvious that we feel just as certain about things when we err as when we actually do know.

certain knowledge. But how can this be? How can man gain certainty when it is patent that his cognitive experiences as a whole are fallible? In the third chapter of this work we shall face this difficulty and suggest a solution. But for the sake of clarity we recognize here, at the outset, the fallibility of our cognitive experiences even though we continue to demand an infallibility for knowing as such.

But, again, if the state of knowing is one in which the knower is completely and absolutely convinced then we must also recognize from the very beginning of our inquiry the existence of a further mental state, which is still cognitive, but in which we are not fully convinced. It is convenient to term this state, one of opining, and in terming it so we adopt the practice of many earlier thinkers. We certainly possess the capacity to make a judgement whose truth is only probable, and we frequently find ourselves in the state of believing something without being quite certain about it. Were it to be shown false (though we hardly think it will) we should not be altogether unprepared. There are, of course, degrees of probability. Sometimes we put forward a statement in a very tentative manner expecting every moment to find evidence brought against it which will completely refute it. On other occasions, while we admit the absence of theoretical certainty, and while a measure of doubt still lingers in our minds, we should be very surprised, indeed, if our belief proved false. None the less, we are still opining. In both cases our state would be different from that in which we are completely convinced. This would have to be recognized even by those thinkers who confine human knowledge to probability and who deny that man ever can be completely convinced about anything. Indeed, their denial assumes the difference, and is not significant unless the assumption be made. But we, on the other hand, believe that the human mind does know with certainty, and it is this knowing with certainty which provides the subject-matter for the present inquiry. Therefore, we shall not be directly concerned with the nature of opining in these pages. Nevertheless, it is as well to distinguish it from knowing at the very outset.

Lastly, we may here add, no knowledge would ever be recognized by us to be such unless its object were the real. This assumption is so very obvious and trite that it seems hardly worthy of mention. At the same time, however, there might be, and indeed is, much disagreement as to the exact meaning and reference of the term 'real' in this context.

THE NATURE OF KNOWING

THE SENSORY EXPERIENCE

I

The Naïve View

WE are engaged upon the search for a fair and adequate example of knowing, and it might at first be thought that such an enterprise need prove neither arduous nor protracted. For the naïve person who has hardly begun to reflect about the nature of knowing can provide us with a ready example that appears perfectly satisfactory to him. I have only to open my eyes, he would say, to know. Seeing is knowing; so also are listening, smelling, tasting, and touching. I see this paper on which I now write, I hear the bird in the garden, I smell the rose which is before me, I touch the table and taste the fruit—all such experiences are instances of knowing, and in searching for examples we need go no farther. Moreover, sense-perception, such a person might continue, is not merely one example but, clearly, the only possible example of knowledge, if we confine the latter term to the knowing of physical objects and of the world around us. For I can only come into contact with the external world through the senses. If I were blind, deaf, dumb, unable to taste and unable to touch, my state would be pitiable indeed; not only because I lacked these capacities whilst other men possessed them, but even more because all knowledge would be denied me, excepting at most the vague 'inward' knowledge of my own feelings of pleasure and pain, of joy and sorrow—if it were permissible to suppose that a creature in this unhappy condition could ever be capable of such emotions. This immense world in which I live would remain unknown to me in its entirety. I only begin to know it when I sense. The only outlet to the external world is the one afforded by sensation.¹

¹ The naïve person is, of course, no philosopher, and I have no philosophical school in mind. Furthermore, I doubt whether it

Consequently, it would seem to him, if I deny that perceiving or sensing¹ is knowing, by that very act I also deny the possibility of any knowledge of the real world outside. And he never doubts that the real is what I see, touch, taste, and so on. Of course, I myself do not see all real things; there are many existences in this vast universe of being which I have not experienced, and which I am not likely to experience, but if I do ever come to a knowledge of them it will only be by way of the senses. Again, the sensing in question need not be mine, for I can learn by listening to, or reading about, the experiences of others in conditions completely different from mine. Knowledge by hearsay is a very valuable means of widening one's spiritual horizon. But first-hand knowledge of the physical world whenever it occurs is, according to the naïve person, invariably sense-perception. And as the latter thus tells us all we know about the external world it must be as sound an example of knowing as is to be found anywhere. Hence an accurate description of sensing or perceiving would be an accurate description of knowing, and we need only carry it out to complete the task we have here set ourselves.

The naïve position, it must frankly be admitted, is not without its strength. It satisfies our first demand for conviction on the part of the knower, for there cannot be a greater degree of conviction than that possessed by the naïve person. In sensing, he supposes, we experience the physical world exactly as it is, and each object as it is. In "all the choir of heaven and furniture of earth" there is nothing that remains hidden from me as a sentient being once I am in a position (spatially and temporally) to sense it. At such a time reality lies open before me,

would be at all fair to foister such crude views as these even upon the much maligned 'man in the street'. I have simply set forth explicitly for the purposes of the argument a position which is as such rarely held. Many apparently less crude reflections, however, when analysed are seen to originate with the implicit adoption of the above view, and it is the obvious position from which to start our present inquiry.

¹ For the naïve person there is no distinction between the two terms.

and I know it directly and completely without altering it in any way.

But, what is it that provides the ground for such conviction? Clearly the undeniable fact that all sense-experiences are, from one point of view, infallible. I look out through the window and see the blueness of the sky and the greyness of the house opposite. At the moment when this occurs, it is simply impossible to deny that I am seeing blue and grey. On this point scepticism can never arise. However long I reflect over the matter I can never bring myself to doubt that I am now seeing blue. Here surely is something about which I am completely convinced, for no greater degree of conviction can ever be possible; and here, the naïve person would urge, is an excellent example of knowing. Furthermore, its excellence is the greater in that it gives complete certainty without involving me in any sustained intellectual effort, and is thus as valuable for its ease and spontaneity as for the conviction it inspires.

In passing, its possession of these features is well illustrated by the readiness with which certain thinkers make use of *seeing* as a metaphor for the supreme kind of knowledge, sometimes termed 'intuition'. The latter is the knowledge which it is customary to attribute to God and to those higher spiritual beings who, like Him, do not proceed by way of laborious processes of reasoning but *see* all things directly and infallibly. "In heaven," it was well said by one such thinker, "each being is, as it were, an eye."¹ Just as I cannot doubt that I am now seeing blue, so, too, I could not doubt this supreme knowledge if I possessed it; and, again, the ease with which I see blue is analogous to the ease with which I should know if I could 'intuit' in this way.² Of course, this does not mean that such thinkers have ever supposed that seeing itself is in any way identical with such divine knowing, or even that seeing is actually a case of knowing. All we wish to point out is that the

¹ Plotinus, *Ennead IV*, iii. 18. ἑκεῖ δὲ . . . οἶον ὀφθαλμὸς ἕκαστος.

² Most of the great philosophers have held that man also may possess this supreme knowledge, that such 'intuition' indeed is human knowledge *par excellence*.

use of the metaphor would not be possible did not the thinkers who use it recognize in the sensory experience a certain infallibility and directness.

Here, therefore, we contend, is the strength of the naïve position. I am thoroughly convinced that I now see blue, and there is no room for doubt. If this were all that the position affirmed there could be no possible objection to it. Actually, however, the naïve person is not content with so limited a statement. Not only do I see blue, but, he would add, I see the blue sky. Not only do I see red, but I see a red rose. My senses, it is true, give me colours, sounds, tastes, smells, and certain touch-feelings. Yet, the naïve thinker would say, it is absurd to suppose that all they give is of such a nature. What I see now is this table with the books, papers, and vase which are on it. I see the man in the street, and hear the birds sing. My senses give me knowledge of physical objects as they are; they open out before me the panorama of this actual world in which I exist. And such knowledge is as completely certain as is the seeing of blue, being identical with it since both are examples of sensing.

Now, it is with regard to these additional claims that doubts arise on reflection. Just as the strength of the position lies in the presence of a certain infallibility in the sensory experience, so its weakness lies in a failure to point out carefully enough where the sensory experience is infallible and where it is fallible. For, actually, the view that the experience is an indubitable direct knowledge of the real physical world cannot hold its ground against the first breath of critical reflection that comes its way. For, while I cannot doubt that I now see red, it is not impossible to doubt that I am seeing a red rose. On closer observation, for example, I may discover that what is before me is no real flower but only an artificial one, and that I was deceived at first in thinking it a real one. Or, again, I look across the Bristol Channel and see in the distance what appears to me to be land and what I take to be the Devon coast. But as I look, what I took to be land gradually moves away and I realize that I have been looking at a cloud. These examples are sufficient to cause us to doubt the infallibility of the sensory experience,

as providing us with indubitable knowledge of the actual external world. Whether through the sensory experience we ever come to know anything about the physical world or not, it is clear that it does not invariably provide us with certain knowledge about it, and once we realize this the first naïve position is no longer tenable.¹

And this is true even though we now admit that there is room for a distinction within the whole sensory experience between a sensing and an act of judgement.² For as against the above examples it may be objected: "Your whole sensory experience of, for example, seeing a grey patch and mistaking it for the Devon coast is much broader than just the bare sensing. What you actually saw was a grey colour. There is no error in your seeing the grey; the error entered when you tried to give greater significance to this grey patch by judging it to be the Devon coast. But if you had contented yourself with the affirmation 'I see grey' there could not possibly have been any error".

Now if, for the moment, we granted such criticism to be sound, it still could not be used to bolster up the naïve position in any way, for such criticism cannot have come from the mouth of the naïve thinker; on the contrary, its occurrence is a definite sign that we are being forced away from that position and are leaving it behind us. The naïve person has no room for such distinctions; the possibility of our senses misleading us has never entered into his head; and the assertion that we see the colour grey and it alone would appear absurd to him. We shall suggest later that just seeing grey cannot in itself be held to be knowledge of the physical world, so that if such a person did accept the criticism made above he would be giving

¹ It, of course, remains none the less true that I do see the colour. It is also true that I know that I see it. The cognitive act of 'enjoying' my own experience is already present. But the naïve person is interested solely in my knowledge of the external world, and so disregards, as we shall do for the time being, this other element of knowing present in the sense-experience.

² The name then given to the whole experience as including both the sensing and the judging is usually 'perception'.

up his fundamental tenet in its entirety, namely, that in sensing we know the actual physical world. This would signify, of course, a complete reversal of his former beliefs, and he would no longer represent the unreflective type first portrayed by us. But even if we suppose that seeing grey is actually an example of knowing the physical world—that is, knowing a quality of (one part of) it—the position of the critic is still very different from that of the naïve person who affirms that sensing is a knowing of the physical world in its fulness, and who certainly does not wish to limit that external physical world to a few colours, sounds, tastes, and the like. Whatever, therefore, we mean by ‘seeing grey’, the criticism just put forward, if accepted by the cruder type of thinker, would seriously modify his former position, so much so that he could no longer be held to be a representative of the naïve view.

We see, then, that the confidence of the naïve person in his belief is indeed justified to some extent by the presence of a certain infallibility in sensing: we shall reconsider this feature with more care in the third section of this chapter. On the other hand, we realize that the sensory experience is no infallible knowledge of the external world. For the testimony of the senses is often misleading, and never wholly trustworthy. And therefore, while we have not decided as yet in what way, if any, the sensory experience can be accepted as an example and type of knowing, we feel that the claims made for it by the naïve person are invalid. It is no easy, infallible, and exact knowledge of the world around us, as the slightest reflection will show. On the contrary, the deceptiveness of the senses compels us to reject the naïve position as totally inadequate and to demand a more critical account of sensation. It is to this consideration that we now turn.

2

Critical Theories

In the previous section the fallacious character of the naïve position has been made clear. It is crude, over-simple, and

completely untenable. Dissatisfaction with it has found outlet in many and varied critical theories of perception, but it is not our purpose to set out in detail the history of these theories. Such an historical account lies beyond the scope of the present work, though it will be foolish not to make whatever use we can of the lessons learnt by past philosophers in our own efforts at describing knowledge as adequately as possible. Sufficient use, however, will be made of earlier thought if, guided by it, we lay bare the basis common to all the many criticisms of the naïve position, and if, following the same guidance, we proceed to discover for ourselves the soundest critical standpoint with regard to the nature of perception. Our problem, therefore, may be set forth thus: Can we, rejecting the naïve position, continue to term perception an instance of knowing, and, if we do so, will the term 'knowing' retain exactly the same meaning in the new speculations as it did in those of a cruder kind?

All critical theories of perception start from the realization of the occasional deceptiveness of the senses. The view that the sensory experience provides us with an infallible and exact knowledge of physical objects in the external world is thoroughly fallacious. In the example given earlier I affirmed that I saw the Devon coast. Later I was myself forced to the conclusion that the affirmation was erroneous, and that my senses had misled me. This possibility of error, as we pointed out previously, is sufficient of itself to demonstrate, once and for all, that perception is no infallible knowledge of the world around us, and that the position of the naïve thinker, in spite of his conviction and dogmatic assurance, is wholly untenable.

But how did it come about that my senses, on this occasion, misled me, and what exactly do I mean when making that assertion? In this respect an objection arose in the first section which, while illustrating the beginnings of the new critical reflection, throws much light also on the source of error in sensing. Actually, it was objected, I did not see the Devon coast. I only saw the colour grey, or—speaking still more accurately—a grey patch. Now the error in the whole sensory

experience described as seeing the Devon coast arose not in the seeing of the grey patch, but in the judgement which immediately followed upon the seeing. Given the grey patch, I endeavoured to discover its significance, and judged it to be the Devon coast, on the ground of, for example, its similarity to a grey patch which I had often seen before in that direction and which I had invariably taken for the Devon coast. And it was in this effort to discover the significance of the 'given' that I fell into error.

There is here a clear distinction between a seeing and a judging within the whole sensory experience of seeing the Devon coast. We are not usually cognizant of any such distinction when we actually experience the sensation, for what we have called the judging requires so little effort on our part, on account of the very numerous occasions upon which we have made like judgements, that we are hardly aware of it until we are compelled, by some means or other, to focus our attention upon it. But this distinction, once realized, makes possible a better understanding of what occurs when, as we say, our senses mislead us. The error in sensing now reveals itself to be a case of false judgement; we affirm something to be that which it is not. Hence, as the result of this first rough analysis of the whole sensory experience, we may now more clearly understand why it cannot possibly provide us with infallible knowledge. Any and every sensory experience of the kind illustrated in the above example, we now argue, involves an act of judgement; it is not mere sensing, it is perceiving; and, as human judgement is fallible, it follows that the sensory experience taken as a concrete whole cannot be infallible. That is to say, being misled by sensing means, in this case, making an erroneous judgement, which is part of the whole sensory experience.

Thus, when once the distinction between mere sensing and judging is set up within the whole sensory experience the occasional error we discover must be attributed not to the sensing but to the judging. It might seem to follow from this that whereas in the judging we sometimes know and sometimes

err, in the mere sensing we never err but always know—if we are agreed that ‘knowing’ is the correct term for seeing grey, for example. But here a difficulty ensues. If the mere sensing is itself knowing, what necessity can there be for this additional judgement? Why should we go out of our way to involve ourselves in judgements which are frequently erroneous if we already know?

The answer can only be that, whatever we do know by mere sensing (if we know anything), we do not know all we wish to know; we are left with a gap in our knowledge which sensing cannot fill. Consequently, we have recourse to judging. For though we were for the moment to grant that the mere sensing does give knowledge, it clearly does not give that full and complete knowledge of the physical world which alone would satisfy us. If it did, of course, judging within the sensory experience would be wholly unnecessary. We should know by mere sensing all that we chose to know. The opposite, however, is clearly the case. Mere sensing, it would seem, simply provides us at most with information which is not itself full and exact knowledge of things as they are, but is rather a help of some sort towards the attainment of that fuller and exacter knowledge. If we take it to be full knowledge we deceive ourselves. At most, it is only a beginning needing the aid of further mental operations before an exact knowledge of the object can occur.

On this point all critics of the naïve view are agreed. Here their theories find a common starting-point, however much they may diverge later. Thus the critical view which most nearly resembles the naïve position avoids the latter’s *naïveté* by seriously modifying the claims made for sensing. In sensing, it asserts, we do not know the full physical world, nor indeed do we know any one particular existent as it really is. Sensation (that is, sensing) merely provides us with knowledge of certain features or qualities of existents. This knowledge, however, is exact, direct, and infallible in character; but it is not complete knowledge of the real. There must also be other capacities and faculties at work. In sensing I only know that this apple before me is red in colour, sweet, smooth, hard, and has a peculiar

smell of its own. That it is one, a unity, that it is a body, or, again, that it is like another apple, and comparable with it these things I know not through sensation but through some other means. Therefore in gaining a knowledge of the one physical object I do not merely sense it, for sensing gives me knowledge only of its 'sensory' qualities, as instanced above, but I must also set those other faculties to work in order to know all its qualities and relations. Thus my final complete knowledge of the object can only be the outcome of a combination or synthesis of many features known by many faculties into one whole.¹

At this juncture we do not wish to discuss the general theory of knowledge implied in this first type of criticism. Our interest at present is confined to the problem of sense-experience. And since this is so we need only attend to the following considerations. The adherents of this first critical position have to presuppose that, if knowledge of the whole physical object is ever to be possible, then the knowledge we get of the 'sensory' features in sensing must be certain and infallible, since we depend upon it solely for knowledge of these features, in such a way that if it gave us error we should never be able to recognize it as error. We must take what the senses 'give' with respect to such features, and if they do not give the truth—that is, if they do not reveal the real features of real things—then, however true our knowledge of the other features may be, the final whole that we make by combining the different features will necessarily be false. It is, consequently, essential for this view that sensing should give indubitable knowledge of the particular features in question, for with regard to them there is no appeal beyond the senses. I do not *see* (by bare seeing) the rose itself—in so far the view rejects the naïve theory—but I do see *its* redness, and thus know finally and absolutely this real quality pertaining to the real existence.

¹ This act of combination may, however, occur spontaneously, being, indeed, not so much a combining on the part of the mind, it might be said, but rather the apprehension of the qualities as being in combination. (Even so, the position is clearly a difficult one to defend.)

But just as it could not be granted that sensing provides us with exact knowledge of physical objects, so now the claim that it invariably provides exact knowledge of a real feature of the physical object must also be held invalid. Error seems to be possible even when we merely affirm that a certain physical object has this or that colour. For instance, I may look at a wall and say, "This wall is red". On the view under consideration, though the seeing gives me no other knowledge of this object, it yet does convince me beyond the possibility of doubt that the colour of the wall is red. But if, now, following some pre-arranged signal, a friend looks at the wall at the same moment as myself, but a great distance off, he will probably see it to be grey, and will have to say, "That wall is grey". A third person looking through a powerful microscope upon some portion of the wall will simultaneously see it to be, perhaps, brown, and will say, "This wall is really brown", and there will be as much evidence to justify his assertion as there is to justify mine, or that of my friend. Now, in point of fact, the wall cannot itself be red, grey, and brown at one and the same time. It is quite true that, as the thinkers who hold this view would speedily contend, the difference in what we see is due to a difference in the circumstances in which we see. But, even so, it is clear that seeing is not invariably an exact knowing of the colour of a thing. If the wall *is* red, then when seen as grey or brown *its* real colour is not being known. Consequently, seeing a colour is not always the direct knowledge of a real feature of an external thing as this particular theory would claim.

"But", it may be objected, "you are causing unnecessary confusion. In every case of sensing the 'given' has to be 'adjusted'. In this instance we must 'adjust' by allowing for the differences in the circumstances of the three persons when seeing. Once this allowance is made, the real colour of the object can then be determined with ease." Now, if we adopt this position, then clearly *what* I see is, on occasion at least, no external existence, nor even a quality of an external existence, but rather something which may provide me with a clue to knowledge of the external existence—a very different theory. Seeing

itself, we should then be admitting, does not always give direct knowledge even of a feature of the physical thing. Furthermore, once I begin to 'adjust', my conviction that I know the real colour of the thing depends not on the seeing of the colour, but on the 'adjusting'. I should say, then, that I know that this wall is red, not so much because I see it to be red (for I know that in other circumstances I may see it to be grey or brown), but because in normal conditions I see it to be red. My conviction is based not on the fact that I saw red, but on the conclusion to which I have come, as a result of a process of reasoning, that conditions were in that case normal (and abnormal if I saw grey or brown). If then we do know in such a case, the knowledge, even of this one feature of the real, does not occur by way of mere sensing—that is, in this case, by merely seeing a colour. More is present. Seeing a colour in itself does not provide me with certain knowledge of physical objects. Consequently, this first critical position, we are led to conclude, is no more tenable on reflection than is the naïve position, for it cannot rightly be granted that we know, in sensation, directly and exactly, even a feature or quality of an externally existing thing.

But if now *what* we see is neither the real physical object nor a quality of it, what else can it be, and how can it aid us to know the real? An answer is provided by the second main critical position, which holds that sensing presents us with a content illustrative of the real independent of us while not itself being that independently real. We are provided with 'sensa' which are related in some way to the external existences, while yet not revealing them as they are. By working on such content, however, adjusting, relating, classifying, and so on, we may hope in time to gain adequate knowledge of the independently real itself. This position is, we believe, in essentials one with the famous Theory of Representative Perception, which produced so much bewilderment in the minds of sixteenth-, seventeenth-, and eighteenth-century thinkers. That theory, however, was sometimes expressed in a cruder and more naïve fashion. The ideas in the mind, the mind's imme-

mediate objects, were conceived as exact copies of the real; though, indeed, most thinkers soon realized that the 'ideas' of secondary qualities, colours, tastes, sounds, and the like were not exact copies, but only represented in a vague way certain 'powers' in things, one of which, for example, caused me to see a particular colour. The still more critical position now being put forward, however, holds that none of these 'ideas' or 'sensa' are exact copies, but simply that they are sufficiently representative to guide me to the real. We cannot say, without being naïve, that sensing is itself a knowing of the externally real; but we can say that it provides us with a content which inexactly copies the real, and that if by a process of thinking the inexactitude of the copy could be determined it would be an easy task to correct the copy where necessary, so that knowledge of the real might ensue. The basis of this view, however, is identical with that of the Theory of Representative Perception; namely, that in sensation we have to deal in the first place with representations of the independently real and not with that real itself.

Once we have arrived at this stage a distinction of very great importance becomes possible and, indeed, necessary. This is the distinction between what is and what appears, between reality and appearance, between the actual existence and the idea or image. In sensing we do not experience the real as it is, but an appearance of it. The content given by sensation, according to the new critical theory, is phenomenal or what appears only. We have to seek with its aid for the independently real. But if this be taken to mean that we are to search amongst the representations for that one which images the external with sufficient exactitude to give us knowledge of it, a serious difficulty immediately arises. For how can we ever know whether a representation or copy of X is a good one or not unless we have known X itself? Now on the theory under consideration we sense only the representations or copies and never the originals; it is, therefore, impossible to test these copies, since we cannot finally test a copy's worth except by the original. This is an old criticism, but none the less sound; for, so long as we continue to think of the problem in terms of copy and

original, then without a knowledge of the original we cannot know whether a representation does adequately represent what it is supposed to represent or whether, on the contrary, the representation is false. If I say that what I see is appearance only, then when I see the colour of a wall to be red, grey, and brown in different circumstances I must be able to see the real colour itself before I can say which of those appearances red wall, grey wall, or brown wall, is the truest copy. Yet colour as an actual property of a real external existent—if there be real colour in this sense—is just what, according to this theory, I cannot see.

Against any theory, therefore, which holds that the immediate object of sensation is a representation, and that we only know the real object when we have discovered that one representation among the many 'given' which exactly represents it, the following criticism may be urged. Never, by any process, can we learn the degree of exactitude with which such representations mirror the external world beyond the representations—if they do mirror it at all—unless we succeed in directly apprehending that external world itself. Yet such direct apprehension is, on this view, impossible by way of sensing. While if another approach to the external real were posited providing us directly with perfect knowledge of the real object, then the search within the content of sensation for the best copy would be wholly unnecessary. The dilemma in this case is real enough. For if such direct access to the external is indeed possible, then the representations of sense are superfluous; they are copies (most often inexact copies) of what we already know directly. But if, on the other hand, we refuse to admit the actuality of such direct knowledge, we then can never test the copies in the light of the original and so can never discover the true copy. Such a dilemma shows the unsatisfactory nature of this theory and necessitates its rejection. Knowing cannot be a search for the best copy of the real amongst the many representations provided in sensation. Here, again, is a view which a little reflection shows to be completely untenable.

It is consequently characteristic of those philosophers who

attempt a new approach to this question, by which they hope to overcome the difficulties of Representative Perception and like theories, that they seek no longer to discover in the 'given' of sense representations which adequately mirror the external real. On the contrary, they try to discover truths which are true simply because they carry with them a validity that is necessary. They try to find within their sensory experiences what must be, what is so necessary that it cannot be denied. And it is this act of discovery which they term knowing. They no longer expressly seek for the external 'represented' in sense-data, but for the inevitable, whether it be external or not. This profound difference in attitude between what we have termed the second main critical standpoint and the third, which we are now beginning to consider, must be fully realized and constantly borne in mind if we would understand some further developments in epistemology. A sensory experience taken as a whole is to be conceived as revealing truths only in so far as there is within it a knowing of the necessarily valid. The knowing involved in the sensory experience is simply the discovery of those truths which hold necessarily within the content of sense-experience.

Now if we are to know the inevitable in the 'given' of sense we shall succeed in doing so only as we lay bare inevitable relations. For, clearly, what we know in this case must be relations which hold universally within the appearances presented by sense. And I judge them to be inevitable because I know them to be universal. Consequently, to say that I know the necessarily valid, or what must be, simply means that I know a law or laws which a particular set of experiences must always obey. Knowing, indeed, on this view, is no longer to be conceived as the apprehension of one particular physical object in its particularity, whether directly or indirectly by way of representations; it is rather the realization of a definite law as a fact in a particular experience, which law is the 'truth' of that experience. And this new meaning of truth makes it wholly unnecessary for us who desire true knowledge to seek in our sensory experience for representations of external reals.

But at this stage an additional consideration of very great importance must be brought forward. We still conceive the 'given' of sense as 'appearance', as only partially real in a vague way which at present we do not understand. We also continue to admit the existence of an independently real which, we suppose, somehow or other produces in us sensations, though sensing gives us no knowledge of that real. Consequently, the law known in the sensory experience does not hold of this independently real world; it only holds of the phenomenal sphere. Now a law holding among external real things is—on the face of it—wholly independent of the mind knowing it, and if I ever know it I shall only do so by apprehending it directly as it really is. But, clearly, a law known in the phenomenal world need not be thus independent. It is not a real law of real things. To say so would be to revert at this crucial moment in the argument to the naïve position, without being able in any way to justify the reversal. On the contrary, the law I know in the phenomenal world is itself phenomenal. It is no law of really existing things, but is at least as dependent upon the mind that knows it as is the phenomenal of which it holds.

A further consideration, however, may now show that actually such laws are even less independent of the mind than is the manifold 'given' in sensation. For while the law, to know which is to apprehend the necessarily valid in our experience, holds of and in a phenomenal world, yet it itself is not 'given' with the phenomena in sense-experience. What are 'given' are colours, sounds, tastes, smells, feelings of resistance, of smoothness, of roughness. But, for instance, that one 'appearance' is produced by another as effect by cause is never 'given'. I have never seen, heard, smelt, tasted, nor touched such a relation. We never sense any definite connection within the manifold presented by sense, though we know many such connections. To take another example; by just seeing a deep yellow, or, if it be preferred, a yellow patch, I cannot *see* its connection with the sweetness of an orange, I am only 'given' the colour yellow, though I immediately think of sweetness. These connections then are never 'given' with the content of the phenomenal

world; they are not 'presented' in our sense-experience; so that they do not appear to possess even that meagre measure of independence of the mind which phenomena still possess in that they are 'given' to the mind rather than created by it.

Therefore, according to the present view, we do not know the 'truth' about phenomena—that is to say, their laws and their necessary order (the existence of which in the phenomenal world enables us to predict certain events as inevitable) by simply apprehending such laws in the way in which a naïve person would say we 'apprehend' the real. Nor, again, are they 'given' in the content of our sense-experience, as colours and sounds are 'given'. Only one alternative, consequently, remains: namely, that the source of such laws is inward, that we, ourselves create out of our experience an ordered whole in which we may justifiably expect certain things to happen, since we who thus expect phenomena to follow laws have ourselves set down the laws they have to follow. If we are to speak consistently and significantly, bearing in mind all that has been said up to the present about the nature of the sensory content, then it is thus alone that knowledge of the necessarily valid can occur, and only thus can we explain our possession of ordered systems of such knowledge in the various sciences. But it also follows, if this be the true account, that human knowledge is not of the real world itself,¹ since all we have to deal with is the phenomenal, and this alone is the content of our experience. Sensation never 'gives' us the real, though what it 'gives' is somehow remotely connected with the real. Therefore, if we, who have only the 'given' of sense to work upon, desire knowledge, it can only be knowledge of an ordered phenomenal world, wherein the order itself is neither 'grasped' nor 'given', but introduced into the 'given' by the mind itself. That the 'given' should in this way allow itself to be ordered by mind is certainly strange enough, for, though phenomenal, it is still in a measure independent of the mind. Nevertheless, this must be the case if human knowledge is ever to be possible. While, indeed, the fact that the phenomenal is still, in however slight

¹ That is, 'real' as opposed to 'phenomenal'.

a measure, independent of the knowing mind must be reckoned a very fortunate one for us, since it gives our science a faint external reference which saves it from complete subjectivity.

This position¹ certainly avoids the central fallacy of the Theory of Representative Perception; we no longer seek the best representations or copies of we-know-not-what originals—a task of Sisyphus. But it avoids it at a price that few would be prepared to pay who fully understood the implications of the new theory as it stands. For by it the human mind is adjudged incapable of ever coming to know the real external world. Instead, we are shut up within a world of appearances, vaguely suspecting the existence of a real world which has produced and is producing these experiences within our consciousness, but which is nevertheless unknown to us and unknowable. Prisoners within the confines of the phenomenal, the urge for knowledge which possesses us can receive only such satisfaction as comes from knowing this shadow-world of appearances; nor is there anywhere a path that can lead us to the real world beyond.

In spite, therefore, of the necessity which permeates this limited sphere, making human prediction possible, and in spite of the 'objectivity', as being equal to necessity and universality, which has thus been assured us, we cannot rest satisfied with this position. However certain our knowledge be, if we are quite explicitly conscious of the fact that it only applies to the semi-real world of phenomena, then it cannot be an example of that perfect knowledge for which we seek. Indeed, using words significantly, we do not feel justified in terming this creation of a systematic world of *phenomena* (which we know to be phenomena and nothing more) 'knowing' at all. On the contrary, our awareness in this instance of the fact that we are confined and limited, that what is before us is the phenomenal and half-

¹ The position we have in mind, of course, is the Kantian. We do not put the argument forward in an historical form, however, because we do not wish to argue as to whether Kant did hold this view or did not. Our attitude throughout this essay is different. Here is a view, whoever first put it forward. Is it itself sound?

real only, would approach nearer to our ideal of knowledge, for it would actually be a knowledge of what really is. Although, incidentally, such knowing would remain wholly unexplained and inexplicable on the theory under consideration. For human knowing, according to the latter, is more akin in nature to the dream and to the fantasy than to knowledge of the real, though it be a dream that greatly helps us in our dealings with the 'appearances' of everyday life. To accept the position as it stands would be to accept an intolerable bondage; we should lose all confidence in the mind's power to know; we should be plunged into a state of hopeless and despairing scepticism. How could it be otherwise if we knew beforehand that the object of human knowledge must invariably be phenomenal in nature?

As a consequence a further development of the argument becomes inevitable if only to help us regain our faith in ourselves as beings capable of real knowledge. For the new theory that now emerges re-establishes in philosophical speculation the common-sense conviction that what we know *is*, that the real is the knowable, and not, as with the earlier theory, an unknowable. The new development, however, is no fresh start. It re-endorses earlier criticism and makes them its basis. For it the 'given' of sense is appearance only; there can be no return to the naïve position. Secondly, a 'true' object cannot be found by searching for exact representations of the real in the content of our sense-experience; consequently, the 'Theory of Representative Perception and any other theory that approximates to it must be rejected. Thirdly, the 'principles' whereby the 'given' is ordered are not themselves 'given' but are ways in which the mind thinks appearances. In a word, the new theory is faced with this difficult task: it must confirm such prior criticism, while, at the same time, it must free the human mind from the limitations which those very criticisms have seemingly shown to be necessary.

It carries out this act of emancipation, to its own satisfaction at least, by adding one more criticism in its turn to those already made. For it asserts that the theory we have just been

discussing fails lamentably in one respect. Though certainly revolutionary in many of the changes it introduces, nevertheless, as the result of too close an allegiance to the past, the theory misses the real and vital consequence of its own position. A complete break away from the earlier standpoint, which, emphasized the reality of an external thing-in-itself, is necessary on the lines already set down for us by the theory just discussed. That the latter, however, failed to carry out completely this revolution in thought is proved up to the hilt by the phenomen-alistic nature of its epistemology.

Yet it securely established the grounds for this further advance. For once the three criticisms set forth above have been admitted, then surely one cannot long continue in the belief that the 'appearances' of sense in any way point to an external real, and that the only real knowledge would be the apprehension of this thing-in-itself outside, although actually such an apprehension is wholly impossible for us. For if the real is what lies outside, influencing us in our sensing, but yet unknown to us as sensing, and if again no other point of contact with that real is possible for the human mind, then no amount of 'adjusting' and no measure of intellectual labour can lead us to knowledge of the real. Indeed, all such working upon the 'given' of sense would lead us directly away from rather than towards the real, since *ex hypothesi* our nearest approach to reality occurs in sensing itself. And—worst consequence of all—if we persist in this view a most confusing distinction between the real and the true must be made. The 'real', as such, it will be necessary to assert, belongs to a sphere which is transcendent and cannot be experienced by us; the true, however, is the necessarily valid within the world of our experience. Hence the paradoxical position, that we may gain truth while still remaining wholly ignorant of the real.

But all these disquieting consequences, it is now pointed out, are due to the simple fact that we persist unnecessarily in the belief that the real is this thing-in-itself, this existence that transcends human experience. If we take our experience as it is and forget for the time being all the various theories whereby

we have tried to interpret it, there is nothing, the new view holds, that makes this concept of the transcendent necessary; nothing that makes it impossible for us to hold that reality is more apparent in thinking than in sensing, that our 'true' object (which indeed is not so much *found* in appearance itself, but is rather the thought-out 'truth' of such appearance in the sense we have already explained) is itself what really exists, that, lastly, the principles of the understanding are capable of ordering not only the phenomena of sense, but the real world of actual existence. There is, as we say, nothing that makes impossible such a belief if we once free ourselves from the tyranny of earlier thinking.

Certainly, such a theory of knowledge involves a radical change of outlook that makes the whole universe of being appear in a new and perhaps at first strange light. For if the mind's principles are the laws of what really exists, and not only of a world of phenomena, such complete accord between mind-created truth and the real must mean that the real itself is spiritual in nature—in this sense, at least, that mind provides the ultimate explanation of its being. That is to say, actual existence in all its forms must be identical in its ultimate nature with this mind of ours, otherwise we could never by working upon the manifold provided in sensing, under the guidance of the principles of the understanding, hope to gain for ourselves a complete knowledge of the real world, nor could we account for the fact that the necessarily valid is the real. All this may appear strange, but if the facts be otherwise, then, according to the present theory, it can only mean that the real is not rational and so cannot be known by us, and we are plunged again into the scepticism which we are trying to avoid. We are forced, *nolentes volentes*, either to deny that human beings ever can possess real knowledge or to assert as our one way of escape that the real is spiritual and that, therefore, our thinking can legislate for it. The real conforms to those principles which my own thinking sets forward as true; so that the mind can construct truth, not of itself creating the world which it knows, for that world is already created, but rethinking the very

thoughts which created it. It follows that in the seeing of colours, the hearing of sounds, and in all those experiences which we term sensations we are at the stage of Appearance, wherein the mind's knowledge of the real is vague and indistinct, but that this knowledge becomes more and more adequate and comprehensive as we proceed to discover by thought, guided by its laws or principles, the inmost 'truth' of what appears.

Therefore we needs must reject the 'sensationalist' pre-suppositions of the former position. If knowledge is to be in any way possible, what is real is not something outside affecting us in sensation whilst yet remaining unknown. For the consequence of such a view is that we find ourselves compelled to turn away from the real, since we know beforehand that it is utterly impossible for our finite minds to 'get out' to it. As a result we are confined, against our will, within the limits of a world of appearances, which we do our best to order as well as we can. But if real knowledge is ever to be possible, we must deny this conception of a transcendent external world and free ourselves from the bogey of the merely phenomenal. We must assert that the real itself lies 'inward' and not 'outward'; that, indeed, the distinction between 'outward' and 'inward' loses its meaning: that the mind can order and legislate for the real because reality itself is spiritual in nature: that if we seek the essence of anything, what it exactly and most truly is, we shall discover that it is something spiritual: and that, finally, this something is better known by conceiving and thinking than by sensing.

This, then, is no idle and fantastic theory. On the contrary, it is the position to which we are driven by the logic of the argument. It is the inevitable conclusion of a trend of thought that begins with the rejection of the naïve view set forth in the first section. At present we do not mean to discuss the soundness of this final position (that is to say, of an Hegelian type of Idealism) as a whole system of philosophy. Our more immediate concern is the problem of sense-experience. And from this point of view, what follows asserts an obvious truth: If it be said, criticizing the first naïve view, that the content of the

sensory experience cannot be the real as it is, but must rather be thought of as some partial presentation of the real, then, if consistently worked out, the argument proceeding from such a starting-point must lead us step by step either to a thorough-going scepticism or to this spiritually realistic theory of being and of knowledge which we have just been expounding. Reality, we must say, if we wish to avoid scepticism, is not something, to be looked for outside mind, but something through and through 'mental', 'ideal', or, again, 'spiritual' in its character.¹

We believe it possible, therefore, to draw the following important conclusion. If we assert that sensation is the only outlet to the real, and that what is 'given' in sensation is appearance, even though we add that such an appearance is the real-as-appearing, or the physical-as-appearing, or, again, the actual-as-appearing, meaning thereby something which only just fails to be the real or the physical or the actual itself, and if we thus base our criticism upon the distinction between appearance and reality, then inevitably we are closed up within a phenomenal world, however much we long for the noumenal. And, unless we succeed in finding the noumenal by holding that the real is spiritual in its ultimate nature, we shall have cut ourselves off for ever from the real. So long as Appearance and Reality is thus the predominating antithesis in men's minds when the attempt is made to give an adequate account of knowledge, so long also must the Idealist interpretation of knowledge and of its object of necessity ensue to save mankind from the deepest and the most despairing forms of scepticism. Such is the conclusion which we believe to be fully warranted by the inquiry carried out by us in this section.

¹ It may be objected that a third alternative is possible, namely, that we can 'infer' the nature of the external real from the phenomenal. But if what is 'presented' is phenomenal containing no clue or hint as to the true nature of the external real, it would seem logically impossible to 'infer' the real. Where such inference occurs it must be because we already *know* something of the nature of that external real—for example, that it coheres. We shall endeavour to show later how this knowledge comes about.

3

A Further Critical Position

The Idealist position at which we have now arrived confirms our faith in our cognitive powers and dispels our scepticism. It also frees us from the insufferable bondage of phenomenalism. It assures us that the real itself can be known by mind. But the fully real, it would say, is not known by all minds, since some minds are less developed than others. For instance, the mind which puts its trust in perception is confused in its knowledge. Perception is a low stage of experience at which the content experienced is only half true. It is the stage of Appearance, illusory and deceptive. But a rational being cannot and, Idealism adds, need not remain at this stage. Within the content experienced in perception there are germs of a fuller truth and the mind of its own power, working according to its own principles, can develop them, constructing (or reconstructing) by this development the real itself. For as thus developed what appears loses its illusory character. The half-real becomes more completely real. Appearance is becoming Reality. If the shadow-realm of Appearance be likened to a prison, it is a prison within which the prisoner is not confined against his will. Its doors are open wide to any being whom Reason has taught to walk.

Are we then to adopt the Idealist solution as here set forth? One point has already been made clear. The moment we feel compelled to assert in a critical mood that in the sensory experience what we gain is wholly phenomenal in character, then we have, ultimately, only two alternatives from which to choose, either complete scepticism as to the knowledge of the real, on the one hand, or Idealism, on the other. And while, no doubt, many thinkers consider that the assumptions made by the Idealist are so unjustified as to vitiate his solution of the problem, so that it cannot really be considered as an alternative, yet no serious inquirer after the truth ever delights in scepticism

as such, nor will he adopt it while there is any other satisfactory solution at hand. Hence the strength of the case for an Idealism.

Nevertheless, in spite of its strength, we do not intend to adopt the Idealist solution in this essay; and we must now try to show why. We do not adopt the solution because we feel that the problem which Idealism thus attempts to solve is an unreal one. It arises from misapprehension and faulty analysis. For we suspect that the whole difficulty consequent upon the adoption of phenomenalism ought to have been avoided at the outset. As yet, we suggest, full justice has not been done by us to the facts of the sensory experience. And in this section we propose to begin criticizing the naïve position afresh. We hope to show that, actually, the facts when rightly examined do not drive us into phenomenalism, and that the validity of the whole antithesis between Appearance and Reality as set forth in the last section is to be questioned. And if it can be shown that phenomenalism is unnecessary, and even unjustifiable, then surely the Idealist solution, which is to save us from the evil consequences of phenomenalism, is in so far equally unnecessary. There may, of course, be other powerful arguments for Idealism. We are here attempting no refutation of Idealism in general. But if the whole phenomenalist position is shown to be the outcome of insufficient attention to the evidence available, and if on paying greater attention to this evidence the difficulties and problems of phenomenalism vanish with it itself, then clearly the need for an adoption of Idealism on our part as a solution of such difficulties no longer exists.

Now we assumed throughout the last section that bare sensation—that is to say, the seeing of colours, hearing of sounds, and so on—has always *some* cognitive value.¹ The fact that the assumption was made so readily (and, in a sense, so unwittingly)

¹ It ought to be emphasized, perhaps, that we mean by 'sensation' the mere hearing a sound, tasting a taste, seeing a colour, and not the whole sensory experience, as it occurs, for instance, in the adult human mind. The bare hearing of a sound no doubt is only a part of the whole auditory experience. But by a process of analysis and abstraction we shall consider this element in itself in order to show that it itself is not knowledge.

by us suggests that we were still under the spell of the first naïve view, which looks upon sensation as exact and perfect knowledge of the real. And because we made this assumption then doubt about the cognitive character of sensation was not carried to the extremes that certain considerations would seem to demand. We have throughout presupposed that sensing is a form of knowing. In the last section, certainly, it was, granted that the knowledge given was very vague; indeed, the word 'appearance' was used in order to suggest the distressing obscurity that characterized the content of sensory knowledge. But yet we never doubted that sensation did provide us with knowledge, however indistinct and inadequate. We must no longer, however, withhold our minds from this supreme doubt; for no satisfactory theory of sense-experience can be gained while we ourselves are conscious that certain difficulties remain unfaced, and one such difficulty lies in the possibility that sensing is never on any occasion an instance of knowing, even of the vaguest kind—a possibility which is accentuated by certain facts about our sense-experience which we must now consider.¹

The naïve position itself clearly cannot be accepted. Neither can that modified form of it which holds that we sense directly and infallibly real features of real physical existents. The argument urged against the latter position was that if, for example, looking at a wall, we all see a real feature of it, namely its colour, then one and the same wall must be red, grey, and brown at one and the same time, since it is seen to possess these three distinct colours by three observers observing simultaneously. It is true, as was pointed out, that the difference in the seeing is due purely to a change in the circumstances in which the seeing occurs. But the fact that such circumstances

¹ In the discussion which follows I have been much influenced by the teaching of Professor H. A. Prichard on the nature of the object in sensation (as yet unpublished). I readily and gratefully acknowledge the debt. I should add, however, that the consequences I draw from the theory (as also the actual formulation) are my own. And I cannot say how far Professor Prichard would agree with me.

can change what is seen was sufficient to prove our point at the time, namely, that seeing does not *always* provide us with reliable knowledge even of the colour of a thing, and that, therefore, our sensing of features, for example, our seeing of colours, is no infallible knowledge. By this means the theory that in seeing a colour I am invariably knowing a feature or quality of a real physical object was overthrown.¹

But we must now consider the more important consequences that follow upon the difficulty illustrated here. Quite clearly, a red wall, if it be red, is neither grey nor brown, and yet we see it to be grey from a distance and brown again under a microscope. Therefore, we concluded, seeing a colour is no complete and infallible knowledge of a real feature of a real existent. Now, however, we need to ask a further question: Is it even partial knowledge? Common to all the critical theories discussed in the last two sections was the implication that sensing *is* knowing, but nevertheless an incomplete partial knowing that called out for completion by an intellectual effort of 'adjusting' and judging. But can we rightly say that this instance of seeing a grey wall is 'partial' in this sense of providing us with what might of itself lead us to see the real colour of the wall? If we had never been near enough to see the wall as red, would the greyiness we saw ever of itself suggest the redness? Clearly not, for the error—if 'error' it is—of seeing the wall to be grey is no 'mistake' on my part that can be rectified by reflecting. However hard I reflect I shall not succeed in seeing the wall to be red from that distance. There is, as a matter of fact, no mistake about the experience; for I did see grey; and

¹ It might be argued by some thinkers that all three colours do exist *somewhere* in the real physical world, though not in one and the same space. The apparent contradiction would then be resolved, while the colours would still be physical. But even if this signified anything—and we must confess that we find it difficult to attach any meaning to it—yet the same problem remains. How are we to determine which of the three colours belongs to that space which the wall itself fills? And the fact that the problem arises at all shows that we do not know in sensation directly and infallibly the real colour of the real wall. This is all we seek to show.

yet it is equally clear that I was not then knowing, nor even 'partially' knowing, if the colour of the object is indeed red, or any colour other than grey.

As this is an important point, we may illustrate it further, taking on this occasion an instance of hearing—for we must make certain that what we say applies not merely to seeing, but also to all other instances of sensory experience. Suppose X and Y both hear (speaking unphilosophically) one and the same noise. X says, "That is a pistol being fired." Y might reply, "No, that was not a sharp enough report to have come from a pistol. You have inferred wrongly." X might then reflect and perhaps admit that Y was right. He would realize that he had mistaken a dull sound for the sharper-sounding report of the pistol. But now, we may suppose, X suddenly becomes partially deaf, unknown to himself. Again they both hear a noise; for Y it is loud, for X it is not. If Y now tells X that the noise is loud, X will not believe him, and however much X reflects in this case, by no reflection whatever will he come to think that the sound was loud. That is to say, both X and Y are absolutely certain about what they heard; *ex hypothesi* they hear the sound produced by the same external something; and yet they do not hear the same sound. "But", it will be said, "X is deaf; the conditions under which he hears are abnormal and, if he was aware of this, he would give way to Y." That is certainly so. But the very fact that a change in the physiological conditions can thus produce a change in the sensation means that X, at least in this case, was not knowing one and the same external object with Y when he was hearing, for he was absolutely certain (and not only partially) that he was not hearing a loud noise, whereas if normal he would have heard a loud noise. X, therefore, we must conclude, is in this case simply not knowing; and by this we do not mean that he has fallen into error, or has inferred wrongly. Certainly, such false inferences may well occur later as a part of his whole experience of sensing, which, taken thus as a whole, is invariably wider than simply seeing a colour or hearing a sound. We only mean that in the bare hearing of the sound as such X is neither knowing

nor, strictly speaking, erring.¹ In that particular his experience is not a cognitive one. What X hears is not what Y hears, yet neither is making a mistake. X as truly heard the slight sound as Y the loud. Therefore, if there is a real noise which they might be said to be 'knowing,' one of them (in this case, we suppose, X) is not knowing it when he hears a noise, not even 'partially', or vaguely, or, again, half-erroneously.

When, that is to say, I see in abnormal conditions, I am not, as barely seeing a colour, knowing any external real thing or any real feature of such an external. I do not even 'half-know' this feature, or know it vaguely. But clearly, when once this position is established, doubts must immediately arise about the character of sensing in normal circumstances. For can we admit the implication involved in the preceding paragraph, namely, that a difference in the external circumstances, physiological and physical, of itself produces this radical difference in the inward nature of sensing, making it in the one case knowledge and in the other an experience which is purely non-cognitive? Does it not seem absurd to suppose that sensing is knowing when I see the colour red under normal conditions—to revert to the first example—and that it is not knowing but something else when the other observers see the colours brown and grey? Again, if I look at a rose in light that is gradually fading, when I first look it has a fresh red tint, then I see it take on a darker shade, and ultimately it will become indiscernible from the blackness around it. Now in such a case it would surely be false to hold that when I saw the red rose I was knowing, while as soon as I began to see it 'changing its colour' I was no longer knowing, but experiencing a completely different experience. If it be correct to hold that in abnormal cases of sensing I am, purely in so far as I see a colour or hear a sound, not knowing a real physical object nor a real feature of it, it would seem necessary to add that in normal cases—the experience and content being of the same general character as

¹ When I talk of 'knowing' here I mean, of course, knowing in the sense in which the experience claims to be knowing—that is, knowing the externally real.

in the abnormal case—I also have no such knowledge. In a word, seeing a colour, hearing a sound, tasting a taste, smelling a smell, and feeling a resistance, are none of them cognitive experiences *as such*; they give us no *knowledge* of external physical objects. When, for example, I see a colour, just in so far I know no physical object, either as a whole or in part.

“But”, it may be objected, “*what* I know in sensing is nothing external; it is a *sensum* or sense-datum, something merely in the mind. Yet sensing is none the less definitely a knowing. I know the *sensum*.” Such a view, of course, would be very different from what we mean ordinarily by calling sensation knowing. Ordinarily, we should mean that in sensation we know the real external world and no mere mental ‘world’. But can we accept this much modified view? Are we justified in calling sensation knowing even in this sense? We doubt it. Once again we must recall that the discussion is about the mere seeing of a colour, hearing of a sound, and so on. Now, no doubt there is knowing in the sensory experience taken as a whole. We shall shortly point out what elements of the experience are distinctly cognitive. But is just seeing a colour or hearing a sound knowing? Certainly, my consciousness that I now see is a knowing. Certainly, again, if I say “This is blue” I make a judgement, involving recognition, which at least claims to be true and is cognitive. But is seeing blue itself a knowing? We cannot admit that it itself, as such is. We do not *know* a ‘*sensum*’ here, even if we see one. Seeing a colour, hearing a sound, belong rather to the realm of imagination than to that of knowing. And though the imaginative experience again taken as a whole involves cognitive elements, yet few would assert that imagining an image and knowing are synonymous.

We might contrast knowing and sensing in greater detail. From the outset we have taken it for granted that a truth ‘once true is always true’. Consequently, if we ever did have an experience of knowing as such, then, we suppose, momentary changes of circumstance in the whole process by which knowing comes about would not affect the content known in any way. Truth, we suppose, is independent of the knower’s particular location,

and of whether it is known by this person or by that. Likewise, it does not depend upon the state of the knower's bodily organs nor upon the present condition of his immediate physical environment. But the content of sensation is completely lacking in the independence and absoluteness which thus characterise truth. What I see, for example, is dependent upon the particular set of conditions in which I happen to enjoy the sensory experience, conditions having to do with my spatial position, the presence of light, the state of my eyes and optic nerves, and so on. Clearly enough, changes in the physico-physiological process accompanying each sensory experience have an effect upon the content 'given' me in sensation. But if seeing the colour, hearing the sound, were truly *knowing*, this would not be the case. For then the only changes of which we should be cognizant would be changes in the object known. The fact that changes in the physico-physiological process produce changes in what we see, hear, and so on, is, in itself, sufficient proof that seeing colours, hearing sounds, are not instances of knowing.

On these grounds, therefore, we feel obliged to conclude that the seeing of colours as such must not be conceived as a knowing.¹ The same is true also of hearing a sound, smelling an odour, tasting a taste, and of any touch-sensation. As such these elements of sensory experiences are not cognitive. If I were merely seeing a colour I should not, in the first place, be directly knowing any actual feature of any real existent outside me (that is, of an independently real physical object), nor, in the second place, should I be providing myself thereby with content, which could be so worked upon and so developed by mind that in time I came to gain a knowledge of truth. This latter point is as evident as the former once we reflect upon the content of abnormal sensation. A colour-blind person, who sees (and always has seen) all things as grey, will never by reflecting upon the greyness, or by 'working' upon it in any

¹ Again, for the sake of safety, I had better repeat I do not mean that the whole sensory experience in an adult human mind of, for instance, seeing the red rose is completely non-cognitive.

way, make out the real colour of a real thing, if a real thing actually has a colour. His seeing of grey has, in itself, no cognitive value in determining the actual colour of the real thing—if, again, it has a colour. But, clearly, what applies in the abnormal case applies equally well in the normal. For, to repeat a former question, how can we allow that identically the same experience is in the one case knowing (when circumstances external to it are normal) and in the other not knowing (when such external circumstances are abnormal)? And if it is not knowing—not even knowing vaguely—then colours, sounds, tastes, and so on, which make up the content of such sensing do not represent or illustrate the real in any way. Hence we see no need, and have no room, for a phenomenalist theory of knowledge. What sense ‘gives’, if we are thinking of colours, sounds, tastes, and so on, is nothing that either exactly or inexactly pictures the real, nor again can reflection upon a colour, or a sound, as such, lead to knowledge. We do not deny, however, as we shall proceed to make clear, that the sensory experience, taken as a whole, is definitely cognitive, and that we find in it the basis of much future knowledge. We hasten to mention this point in order to avoid misunderstanding. But, while we merely see colours, hear sounds, and so on, *in so far* we know nothing, either directly or indirectly. Consequently, we simply cannot say that we are dependent upon the seeing of colours, the hearing of sounds, and so on, for our knowledge of the external world, nor again that we are at first confined and limited in our knowledge to a world of sensory-appearances, or to the phenomenal, reflection upon which may lead us to full knowledge.

It may, however, be objected that if we definitely adopt the position now being suggested, our difficulties will be infinitely more serious and acute; very soon all advance will become impossible. For we now affirm that experiencing the content of sensation (colours, sounds, smells, and so on) is not knowing the real, since such content is, so far as we know, neither the real itself nor an appearance pointing to the real and in some way illustrating it, whether distinctly or indistinctly. But, it will

be asked, if we thus wholly deny that sensing is knowing do we not shut ourselves off from the possibility of ever knowing the external real? What could we come to know of the world around us if we were incapable of sensing? It is a very old dictum that knowledge begins in sensation, and now we seem to be denying the assertion outright. Are we not really in a worse position than were those critics of the previous section who found themselves shut up within a phenomenal world? And shall we not, in order to provide ourselves with some outlet, either have to accept their phenomenalism or wholly forget our doubts about sensation and return to the naïve position?

By way of answer to this objection, and in order to make our position clear and definite, we may now set forth explicitly two further considerations relevant to the present issue. In the first place, we do not agree that sensation is the only outlet to reality. On the contrary, if by 'outlet to reality' we mean knowledge of reality, and if by 'sensation' we mean just the seeing of colours, hearing of sounds, and so on, then we contend sensation is not even *an* 'outlet to reality', one amongst many. Seeing a colour, we have agreed, is not knowing; and, therefore, in this sense, it cannot be regarded as an outlet at all. But here an important reservation must be made. For, in the second place, it seems clear to us that the whole of any concrete sensory experience, as it occurs, is never the mere seeing of colours, the mere hearing of sounds, and so on. More is always involved in the experience. Consequently, to deny that seeing a colour is knowing, neither necessitates nor in any way justifies the further assertion, namely, that no particular sensory experience, as a concrete whole, can ever be a knowing.

That the sensory experience as a whole is not merely a seeing of colours, or a hearing of sounds, and so on, can be proved conclusively by reconsidering a point already made. In merely seeing a colour there can be no mistake. I see the colour which I actually do see, and that is the end of the matter. Nevertheless, it is a patent fact that any concrete sensory experience, taken as a whole, may, and very often does, contain error. But, if so, such a sensory experience must be more than the mere

seeing of colours, hearing of sounds, and so on. For, once we admit that some of the experiences are erroneous, we imply that they might have been true—that is, we implicitly affirm their cognitive character. But if seeing the colour were the whole rather than a part only of the experience, this would be impossible, since we have already granted that seeing a colour is an instance neither of knowing nor of erring. The sensory experience as a whole, therefore, is a complex of which seeing the colour is only a part.

The source of the error in this complex is in some instances fairly obvious. When, for example, I see a coloured patch in the distance and say "That is Jones," the whole experience, though its duration be exceedingly short, is a very complicated one, involving at least recollection, comparison, and recognition. Into such a complex act error may easily enter. For instance, I may have recalled wrongly or inadequately. I took the person in the distance to be Jones because he is just that height, but I ought also to have remembered that Jones is not so broad-shouldered. In other instances, however, the source of the error is not so obvious. Especially difficult to understand and explain, is that more fundamental type of error, whose existence has already been noted by us. We believe, however, that much light can be thrown upon the character of the sensory experience in general by a thorough-going analysis of this latter error. We refer to the error involved when X and Y—to revert to the former example—hear what we should describe (when off our guard) as one and the same sound differently. There is no mistaking, yet both cannot be correct, if it really is the same sound. The truth is, of course, that all talk about one and the same sound in this context is false. X hears one sound and Y another. Their experiences differ in content and, in so far, neither errs. Nevertheless, we should naturally say, X is making a mistake. But on what grounds do we make this assertion? Why should we tend to think that X is in error? Clearly, because, in the first place, we assume throughout that X in hearing is knowing (or erring about) some externally-existent noise, and that Y in hearing is also knowing (or erring about)

this same external existence; and because, in the second place, we take it for granted that in knowing the object is independent of the mind knowing. Consequently, it seems evident to us and to X and Y themselves that they ought both to hear exactly the same sound. If they do not, one of them is erring. In this case we judge that X is erring, because the noise is loud not only for Y but for many others as well.

The error, that is to say, is connected with, being indeed the immediate consequence of, the conviction, natural to us, that when we see a colour or hear a sound we are knowing something existing really in total independence of our sensing. If X and Y believed that the sounds they heard were dependent on the sensory experience, if they supposed them identical in nature with the images of our imaginations and dreams, there could have been no cause for disagreement between them. For it is in no way necessary for two men to imagine the same noise at the same time. The disagreement came about only because both of them claimed, in hearing the noise, to be knowing something real, independent of them, something 'objective' as opposed to the 'subjective'. That is to say, the real cause of the disagreement lay in their common conviction—a conviction shared by all unreflecting persons—that in hearing a sound we are *ipso facto* knowing the physically real world which is independent of us as knowing it. In the sensory experience we feel convinced of the immediate presence of the external, and the alleged error of X is only to be understood in the light of this conviction. X is not really more mistaken than Y, but we should naturally consider him to be mistaken because both X and Y, we suppose, are hearing the same external something and so ought to hear the same noise and because most of us hear the same noise as Y.¹ That is to say, when actually we are justified only in the belief that we hear a noise or see a colour, we invariably talk and act as if we were hearing something real outside us and *seeing* a coloured something, a some-

¹ Even here a difficulty arises on reflection. For how can we possibly know that, for example, hearing a loud noise, or, again, seeing a red colour, is the same experience for all of us?

thing which exists independently of our seeing it. And we talk in this manner because we are convinced at the time that the external real is being known by us. It is the independence which we attribute to this 'something', which leads us to expect a conformity between our sensory experiences and to suspect ourselves of error when this conformity is missing, when, for example, on different occasions we see the same external something (as we think) to be grey and red, or hear the same something to be both loud and not loud.

It is this conviction then which accounts for the fact that we so readily assume the world to consist of objects, which possess, as real qualities, colours, sounds, smells, tastes, resistances. We actually see colours, but we feel convinced at the same time that we are in contact with the real other than, and independent of, ourselves as sensing, and we consequently assume that we are *seeing* a world of independently *real* entities. The same is true of hearing, tasting, touching, and smelling. Here lies, surely, the deepest and most fundamental error of human experience, that when we see, for instance, a red patch we straightway believe we see a red physical object. In these pages the error is attributed to the fact that in this complex sensory experience we do not merely see the colour, but are also at one and the same time convinced of the existence of an externally real physical object and we immediately apply to it as a quality the content seen.

Other explanations may be attempted. It may be said that colours look as if they were physical objects, and that sounds seem to be real things. But such an explanation of the source of the error seems absurd; a colour looks like nothing but a colour; a sound cannot seem to be anything other than a sound. This cannot be the true explanation.

Another explanation that may be urged is that we become convinced of external things in so far as we realize the character of the space within which we see colours, since this space is so far independent of us as to make it impossible for us to arrange things spatially according to our private wishes. If we once realize this, it may be argued, it then becomes evident to us

that we are dealing with an independent world, and it is natural for us to suppose that this independent world is filled with coloured objects. But this explanation is really no more adequate than the former. For even if we grant the first point that spatial arrangements are not created by us, but are known simultaneously with the seeing, even so, our conviction that there exists before our eyes in sensation a world of independently real coloured objects cannot be the outcome of our realising that spatial arrangements are not our private creation. For when we imagine we are equally well compelled to set our imagery forth in space, yet there is in imagination no conviction that we have before us here and now an external independently real world of coloured objects. And we have no right whatever to assume that the space of the imagined world is a private creation of the mind, while that of the sensed world is independent of the mind.

One further explanation might be offered. We become convinced that an independently real world of coloured objects exists the moment we realize that the mind is not completely master of its sensory experiences. For instance, I cannot see what I want to see. I can imagine the deep purple of a kingly robe at the present moment, but I can only see the white which I (unphilosophically) take to be the colour of the paper before me and the brown of the table. However strong my desire to see purple, and however clear the image of purple before the 'inward eye', I yet do not *see* purple. Once I realize this, it is urged, it then becomes natural for me to infer the existence of an independently real world outside consisting of so many coloured objects, and to conclude that I shall not see purple until something which is purple comes within my range of vision.

Now it seems fairly obvious that what we see is in some measure independent of us.¹ Yet our belief in the existence of an

¹ Though, indeed, in certain abnormal cases the opposite seems to be the truth. For in hysteria the patient thinks he *sees* outside him what exists only in his imagination, and lunatics no doubt have often been convinced that they *see* the purple robes of sovereignty upon them although they are really dressed in ordinary clothes. But for the moment we can postpone consideration of these cases.

independently real world in sensation can hardly have arisen from our realization of this fact. If the mind becomes aware of external existence only when it has explicitly realized that in sensation it is not free as to what it senses most of us would still be without the conviction that there exists an independently real world of coloured objects. Yet this conviction as a matter of fact seems always to be present, however far back we go in our experience, and certainly it exists long before we become aware of the mind's determination in sensation. Indeed, it seems rather ridiculous to suppose that at some early date in my mental history I chanced to be seeing yellow but wished to see, say, blue, and so concluded, since my wishes were frustrated, that this experience of seeing was, in part, out of my control, and that therefore there necessarily existed an independently real world of coloured objects.

On the contrary, we seem to be convinced of the existence of an independently real world consisting of so many separate coloured objects simultaneously with our seeing the colour, and not by any inference from it. Therefore, while this argument from our determination *ab extra* in sensation may be of great value as confirming our conviction that there exists an independently real world, we cannot admit that the conviction originated with it. It is obviously prior to it. From the first we seem to feel certain that there is a world around and outside of us as sensing, and we implicitly believe that the colours we see belong as qualities to the world about whose existence we are so convinced. In a word, we straightway *see*, so we suppose, a coloured world out there.

These attempted explanations, therefore, have all proved unsatisfactory. None the less the facts which they seek to explain remain indisputable. The sensory experience is not merely a seeing of colours, a hearing of sounds, and so on. There is always present in each and every sensory experience that which claims, at least, to be knowledge. Throughout we are convinced that we are here and now apprehending a world of objects. The latter are not created by us, and are not of the same character as the images of our imagination, but are

independent of us and, in this sense, outside us waiting to be apprehended. Furthermore, we are also convinced that these objects possess various sensory qualities, colours, sounds, tastes, and so on which we apprehend in sensation.

Now how far are these convictions valid? Are they justified and warranted by the rest of our experiences, and by our later reflections upon the sensory experience? It was pointed out earlier that we are frequently convinced without actually knowing at the time. Error would not be error were we not convinced whilst erring that we were knowing the truth.¹ But do we know the truth or are we in error when we are convinced in the sensory experience that we now apprehend an independently real world of coloured objects?

To this one question there are two parts. Firstly, do I see a world of independently real *coloured* objects? Or—to consider another of the senses—do I taste an independently real object which has, as one of *its* qualities, a certain taste? At the unreflective stage we are convinced that such is the case. The colour, the sound, the taste, the odour, the resistance belong to the independently real object as so many qualities. The apple before me is itself red, sweet, hard, and so on, quite apart from my seeing, my tasting, and my touching. But is our conviction sufficient evidence that the independent real does possess these properties? We have already answered this question. In the argument of the present section we have tried to make it clear that such a conviction is wholly unwarranted by the facts of our sensory experience. The fact that I see colours does not justify me, surely, in holding that the independently real world is a world of coloured objects. I only believe that it does when I take it for granted that the seeing is itself knowing, whereas reflection shows that it is nothing of the kind. It may still be admitted, however, that the object possesses some property or quality which causes me to see a certain colour at the present moment and in the present circumstances. (Were it not so I

¹ Consequently, doubt is not error, nor is suspension of judgement, for in such experiences there is no conviction that we now know. For the moment I leave out of consideration error in probable judgements.

could not begin to explain why it is that I see one object to be red and another to be blue in like circumstances. It may even prove true that actually independently real objects *are* coloured, though at present I certainly do not know this.) Our only point now is that in merely seeing a colour we do not know any real quality of an independently real existence directly, and that it is pure assumption on our part to suppose that we do. We are not, therefore, justified in our first conviction that the independently real consists of so many coloured objects. We have not, of course, proved this conviction of a coloured world to be definitely erroneous, but we have shown that it is pure assumption and so quite possibly erroneous. That we immediately *see* an independently real world of *coloured* objects must be written down as a completely unverified assumption.

But, secondly, a more important question remains to be considered in this connection. Do we really apprehend an external existence whilst sensing? We certainly feel convinced that we do in an unreflective mood. If I close my eyes and begin to imagine I know that all the occurrences imagined by me belong to a world of imagination within my mind. But once I open them I am convinced that I look out upon a world other than, and independent of, my mind. Now even though it be admitted that we do not see and hear actual qualities of the real objects outside, can we not assert without fear of contradiction, that in the sensory experience we apprehend the existence of such objects and of an external independently real world?

Our conviction that such is the case seems so natural, so universal, and so certain, as to appear unassailable. Nevertheless, certain considerations which we must now make cannot but throw doubt even upon this conviction. In certain cases of hysteria the patient is convinced that he *sees* what can only be the creation of his imagination. He sees occurring externally to him and, as he believes, independently of him, happenings which we know could not occur anywhere except in his disordered imagination. Here then is a case of imagining in which the person imagining is convinced that he is now knowing

occurrences in an independently real world. Or we may take the more normal experience of dreaming. I may dream of many strange events and 'see' them all occur before my eyes in the world outside and around me, but when I wake up I realize that I have been dreaming and have actually seen nothing outside me in independence of my own imagination. But if this is so, then clearly in dreaming and in hysteria my conviction actually misleads me. And if it be proved at fault in hysteria and dreaming, my faith in my conviction whilst sensing must also be shaken. May not the whole of my experience be a dream which I myself spin out of my imagination? May not my conviction of an outside world be as illusory in the sensory experience as it is in dreaming or in hysteria?

Now as long as these questions remain unanswered we have no right to claim for our conviction absolute validity. We can no longer be theoretically and absolutely certain that the sensory experience is in part an apprehension of an independently real world around us. But again—and this now becomes a matter of vital importance for our argument—we have still less right to deny this assertion outright. Because our conviction is illusory in dreaming and in hysteria we have no right to assume that it is equally illusory when sensing; because our experience is defective in one respect we cannot argue that it must be defective in all respects. And certainly we have no right to infer that the world about whose independent existence we are so convinced in the sensory experience is actually dependent upon me and is identical in character with the world of imagination. With full confidence, then, we can neither assert nor deny the existence of an independently real world if all the information we possess is that given us in the sensory experience.

Nevertheless, though we are conscious of the fact that complete knowledge in this connection is out of the question at present, we can yet claim that one position is more likely to be true than another. Indeed, it is now becoming obvious that most of what we ordinarily call knowing is not knowing in the strict sense—that is, knowing apodeictically—but is rather

the determining of what is most probably true in any set of circumstances. It would be absurd, therefore, to deny the possibility and the actual existence of what we term 'opinion'—retaining the term 'knowledge' for absolute and certain knowledge. Now our first conviction that there exists an independently real world—the conviction that makes solipsism appear from the first an absurd theory—becomes, upon reflection, an opinion whose truth is extremely probable. Doubt creeps in when we recall such experiences as dreaming and hysteria. Yet, while we cannot be certain, it seems exceedingly probable that an independently real world exists, and exceedingly improbable that the whole of our life should be nothing but a dream. All the rest of my experience seems to confirm my belief that there are other existences, independent of me. Certainly, metaphysical speculation may lead me to say that the Real in, or the Essence (and so the explanation) of, all that lies about me as well as of my own existence is Mind. Even so, it would remain extremely probable (though not certain) that *I* am not the mind that brought into being these things around me, as I bring into being an occurrence in a dream. And though I have not complete and absolute certainty on this point I live out my life on this hypothesis, and thus far apart from the doubt already mentioned no other has arisen. Here, therefore, is something which seems exceedingly probable. But it is not absolutely certain knowledge. It also must be written down in the last resort as something taken to be true, without our being completely certain of its truth.¹

Is there, then, anything of which we are completely certain in sensation? Obviously, the moment we reflect, we are completely certain of one fact, namely, that we do have this experience. For whether awake or dreaming, in a normal or an abnor-

¹ There are, we repeat, degrees of probability. And we may safely say that this latter assumption is more likely to be true than our earlier assumptions, namely, that independently real objects actually possess as qualities the colours we think we see them to possess. On reflection, and as our knowledge increases, this latter assumption seems to become less and less probable.

mal state, I do now see this particular colour, and I know that I see the colour. But this knowledge hardly occurs in the most primitive forms of the sensory experience. It comes later. It presupposes a reflective mood, and a capability of distinguishing between what is external to me as experiencing and what is internal. But this explicit distinction is not made at the lowest levels. It is certainly assumed in thinking of the physical object. Yet it is only later, surely, that it becomes explicit. The truth seems to be that the question of the dependence or independence of these physical objects and real entities which I think I see upon my mind does not really arise in these primitive experiences. It only arises explicitly for the reflective philosophical person. And in just the same way we have at this level no explicit idea of self, and cannot be said then to feel certain that we now enjoy a particular experience—for example, seeing a colour. Thus it would be hardly correct to say that throughout the sensory experience we find a knowledge of the self as enjoying a sensation. But is there, then, *any* certain knowledge in these lowest sensory experiences?

We believe an affirmative answer must be given to this question. We doubt the existence of coloured objects. Furthermore, the moment the matter becomes explicit we find it possible to doubt that in the sensory experience we have a knowledge of independently real physical objects. But present in all sensory experience we find one conviction that we have never yet succeeded in doubting. It is the conviction of real being. In the sensory experience we are aware of existence (whether internal or external to mind). We *believe* we know much more, we 'see', so we suppose, coloured things. This, however, can be doubted. But that sense-experience involves an awareness of existence cannot be doubted. It is so far cognitive. That is to say, if we take the sensory experience of the most unreflective person and abstract from it all that he thinks he knows, but that we see reason to doubt, there will still remain a core of certain knowledge which cannot be doubted. Viewed cognitively, sensory experience is largely erroneous, but it is not completely so.

"But", it will be objected, "what *does* this person know? One cannot know a *that* unless one knows its *what*. One cannot know bare existence, one can only know something having definite qualities. But the only certain knowledge you allow the mind in sensation is that of bare existence. Yet no mind can ever know bare existence as such. For as such bare existence is just nothing." We admit the strength of the criticism and do not wish to avoid it. Our answer is that the sensory experience is never merely the knowledge of bare existence. Bare existence is not the content of the experience. It is the result of our abstraction and analysis. What we believe we know when we sense is a world of sensible objects. But we have shown that we are not justified in our belief. All we can definitely and justifiably be certain of is that actually something exists. The mind, however, unjustifiably but very naturally, 'sees' in the content 'given' by the senses the 'stuff' of the real, and, as a consequence, believes itself to possess a more extended knowledge of the real world in sense-experience than it does actually possess.

If it now be added that every other human experience involves so much knowledge, since there is no experience in which we are not aware of existence and are not apprehending some reality of some sort, we shall not deny this. What we claim for the barest sensory experience that can be imagined, from the point of view of true and certain knowledge, is very little indeed. But we believe that it was necessary in a full and complete analysis of the sensory experience to mention this essential component of each sensory experience, however bare.

We are now in a position to carry out a three-fold analysis of the sensory experience taken as a whole. In the first place, we note a certain determination or affection of the mind in sensation. We find ourselves compelled to see blue on one occasion and yellow on another. However strongly we will we cannot will to *see* a particular colour. The mind in sensing is not completely master of the situation; in some measure it is determined. Here is one essential feature of the sensory experience.

rience which it is always dangerous to disregard. A second feature is the seeing of the colour, the hearing of the sound, and so on. We are not merely determined, but we also see. This seeing of a colour could never occur were we not beings who possessed the qualities and capabilities (both mental and physiological) necessary for its occurrence. So also with hearing a sound, tasting a taste, and so on.¹ To be determined is not enough. But when we, who possess these qualities, are determined in this manner, then we see, hear, taste, and so on. In the third place, there is a cognitive side to the sensory experience as a whole. This is not the seeing of a colour, but is to be distinguished from it; for seeing a colour is not knowing, neither is hearing the sound as such. The sensory experience as a whole, however, is never the mere seeing of a colour. Throughout we are at least making claims to *know*. We have been led to conclude that most of these claims are invalid. Much of the so-called 'knowledge' in the sensory experience is really probable only and ought better to be termed 'opinion'. Its defect is that it does not carry with it complete certainty. Moreover, some portion of what we naïvely claim to be knowledge is definitely error. Indeed, only one claim seems to be unquestionably valid for all cases of sensory experience, namely, that in it we know real being. (For the sake of completeness, however, we should also add that already we, at least, opine, if not know,² temporal and spatial relations, identities, causal relations, and the like in the sensory experience.) Thus the sensory experience taken as a whole possesses definitely a cognitive feature; and this is especially true if within 'cognition' we include, as is usual, opinion, and even error.

Also, it is necessary to mention the activities of mind *qua*

¹ I have not sought to give any account of the nature of these necessary qualities. Such an account would definitely go beyond the scope of this work. All I wish to show is that this feature of the whole sensory experience is distinguishable (though not separable) from the knowing present.

² At present we need not discuss whether this is knowledge or opinion.

comparing, relating, and recollecting within the whole sensory experience. These clearly pertain to its cognitive side. We have been considering the sensory experience in its barest forms, yet in no case, it would seem, are the above activities wholly absent. In the more developed forms of the sensory experience, as, for instance, in adult experience, they are obviously present. We gain knowledge and come to an opinion mediately after much comparison, recollection, and reflection. We shall consider the mediation involved in greater detail in the next chapter. But it also seems to be present even in our earliest sensory experiences, especially so if these call forth any explicit and significant statement on our part, however simple; for instance, "How hot!" "This is blue." A discussion of this matter, however, would be irrelevant at the present moment.

We thus acknowledge the existence of these activities in the sensory experience, but postpone consideration of them to the next chapter. It is as well, however, to point out at once that we do not intend to adopt the further position, sometimes held, that the purpose of these activities is to help us *create* out of the content 'given' by the senses a significant sensible object. We have throughout combated this view. There is no more serious error in the realm of epistemology, we should like to suggest, than to suppose that knowledge comes about by 'working' upon the sensory qualities provided by our senses. The ultimate consequence of such a view, as we have pointed out, is always the same; we find ourselves shut off from the real world and confined to the phenomenal. And this consequence, we think, results from the failure to analyse the sensory experience properly. It is due to mistaking what is not cognitive in the experience for a cognitive feature of it. The colours seen, the sounds heard, and so on, may be termed, if we wish it, 'appearances'. But they are not to be thought of, on any account, as in themselves leading us to, or in any way suggesting, knowledge of the real, they provide such knowledge neither in part nor wholly, neither, again, directly nor indirectly by way of copy and illustration. Nor, lastly, can we gain any knowledge

whatever of the real by reflecting on such colours and sounds *in themselves*, however hard we reflect. Whatever knowledge itself is, it is not the seeing of a colour, nor is it any kind of intellectual 'working' upon the bare colours, sounds, and so on, provided in sensation. We should rid ourselves of the misleading idea that we know a half-real shadow-world in the sensory experience, and that by 'working' upon this shadow-world we may in time come to know the real which lies behind it. As much as we *know* in the sensory experience is the real itself and no half-real. And if anything helps us in future, then it can only be the knowledge we actually do gain.

At present, then, as the result of our reflections in this chapter, we have little to say about the nature of knowing. For that which is knowing in the sensory experience is so minute and so inextricably woven into the texture of the whole experience that it is exceedingly difficult to detach it in order to observe it as it is in its own nature. Hence, though we may feel convinced that every sensory experience involves a knowing, namely (at least), the apprehension of the existence of a real world, yet we cannot hope to gain much positive information about the nature of knowing from scrutinizing it as it is embedded in the sensory experience. It would indeed be foolish to expect the nature of knowledge to be best revealed in that experience wherein it seems least present. In the sensory experience knowledge is at a minimum. Consequently, if we wish to discover the nature of knowing it would be wise to turn away from the sensory experience. There are other human experiences where the knowing involved can be more easily studied. In the sensory experience the cognitive element does not even predominate; for, undoubtedly, the characteristic feature of any sensory experience is the sensing of colours, sounds, tastes, and so on. Thus the knowing in it is hidden and encumbered by what is not knowing. We need to find an experience, in which knowing will be freed from some at least of the encumbrances that surround it in the sensory, so that it can be more easily examined and observed.

For these reasons we must content ourselves at the end of

this chapter with the negative information which is all that we have thus far obtained. The sensory experience, we conclude, certainly does not present us with that example of complete and perfect knowledge for which we seek. At most, it can only provide us with one brief glimpse of our quarry in the distance.

DISCURSIVE REASONING

THE argument of the preceding chapter has thrown little light upon the character of knowing. On the whole, it would seem untrue to say that the sensory experience is ever completely non-cognitive. But what is not knowing in the experience is so closely bound up with the actual knowing present, and is so frequently confused with it, that the use of the sensory experience as an instance of knowing is unsatisfactory and even dangerous. For it is only with difficulty that we free ourselves from the naïve and completely misleading tendency, so deeply rooted in our minds, to regard the bare seeing of a colour as itself an infallible knowledge of the external world. The first truth that must be learnt is this negative one that knowing is something wholly different in character from merely seeing a colour, hearing a sound, and so on. And since such bare sensing is the most prominent and the most characteristic feature of the sensory experience (though never the whole of it) the latter cannot but prove a very poor instance of knowing.

Now a far more valuable instance, it may be said, is to be found in discursive reasoning. Here, certainly, is a conscious attempt at knowledge. *Prima facie*, it seems to consist in the effort to attain further knowledge indirectly (that is, through another or other known truths) when the direct approach is impossible. Discursive reasoning is in this respect synonymous with mediation, and most of the knowledge (and opinion) gained by mankind seems to be gained in this way. For instance, in our developed sensory experiences the presence of discursive reasoning is obvious. We succeed in making new assertions through comparing and relating the present 'given' with our other experiences; we discover unity in differences and differences in unity; we 'see' things in a wider context and relation; and thus argue from truths already known to others not yet known. The sensory experience in its concreteness, as it occurs in the ordinarily developed adult mind, is as much discursive reasoning as it is sensing. And as our know-

ledge increases so we find greater need for discursive reasoning. Now, if such be the case, a careful examination of discursive reasoning or mediation should give us real insight into the nature of knowledge. It must be *the* instance of knowing for which we seek.

In the present chapter we propose to examine this claim. What is discursive reasoning? Is it through and through knowing and nothing but knowing? Or is it a complex process like sense-experience, of which knowing is part only? If the former, how best can we describe the knowing? If the latter, then, again, what characteristics belong to the knowing involved, and, in addition, what other feature or features different from knowing are present and what function do they fulfil? These are the problems that must engage our attention in the present chapter.

Before we can proceed, however, to their detailed consideration, and before we endeavour to give a more definite meaning to the terms used thus far in describing discursive reasoning, certain very important preliminaries must be discussed. These are themselves of the greatest interest from our point of view, because of the further light they throw on the nature of knowledge.

For, firstly, how do we come by that prior knowledge presupposed once we conceive discursive reasoning to be the gaining of new knowledge through truth already known? The prior knowledge, it may be answered, was itself known in some earlier mediate process based upon still earlier knowledge. But clearly this cannot go on for ever. There must be a basis, which is known not by mediation but by some other means, upon which all our mediate knowledge rests as on a foundation. But how did this first knowledge come about? And is it wholly different from the knowledge found within the process of discursive reasoning? If it be so, is it a better instance of knowing than discursive reasoning? And are there then many kinds of knowing, each distinct from the others?

In the second place, what exactly is the *content* of the knowledge presupposed in mediation? It is evident from what

has been said that some knowledge must always be presupposed in mediation. But knowledge of what? The difficulty in seeking to answer this question arises from the fact that the prior knowledge is required for at least two purposes, the one radically different from the other. In the first place, we require a logically secure foundation for the structure we are about to build by discursive reasoning. Unless the basis and principle of procedure are logically valid, the whole structure will be unsound. We must know beforehand what is and what is not logically valid. It is this kind of prior knowledge which we shall discuss in the first section. But, in addition, the discursive reasoning cannot proceed unless some 'stuff' is known beforehand. The thought-process begins with something already known, not only with a knowledge of the logically valid, but also with a certain definite content. This content, it is usual to suppose, has already been gained by the mind in 'experience'. Before the process of mediation could ever begin the mind has already 'gained certain data'. Now such language is distressingly vague. What is this 'experience'? And how does it provide the 'stuff' beforehand? The more nominalist type of answer to these questions will engage our attention throughout the second section, but no final answer can be given until the nature of mediation or discursive reasoning itself has been made clear in the third section of this chapter.

I

The Prior Knowledge of Principles

In this section we shall consider the knowledge of the basic principles presupposed in all discursive reasoning. We shall show, firstly, why such prior knowledge is necessary. In the second place, we shall defend the thesis that such principles are necessarily universal and all-pervasive features of real being. Thirdly, we shall discuss the nature of the act of knowing by which the principles are apprehended.

We may best begin by reiterating a point already made, that any mediate process which is to provide us with demonstrable knowledge must rest ultimately on a sure foundation. And this means, in part at least, that as we advance step by step in the argument we are throughout guided by sound principles. Long before we bother to formulate these principles precisely, however, we apprehend the truths they embody, for example, that a thing cannot contradict itself, and we make use of them when reasoning discursively. Indeed, it is only when we are compelled to defend our position or when the sceptic in us awakes that we realize how all along we have proceeded on the understanding that certain primary principles which we now seek to formulate in precise terms were true, and how, throughout, the validity of our reasoning depends upon their truth. But it is clear that the ultimate source of our assurance as to the validity of any reasoning process lies always in some principle (or principles) which we see to be indubitably true.¹ Consequently, if we affirm that mediation yields demonstratively valid knowledge, then we presuppose the existence of a prior knowledge, namely, that of the first principles of reasoning, upon which our discursive reasoning depends and by which it is guided throughout. The necessity of this prior knowledge is obvious.

Moreover, this prior knowledge of the principles must be

¹ We do not mean that these principles are primary premisses in the sense of starting-points for any particular science. They are rarely, if ever, premisses at all. Every particular science has its own primary premisses. For instance, if we take the particular ground for any statement in arithmetic, this will be grounded on another statement, and ultimately we shall come to one about perhaps the nature of the unit used, or again about arithmetical progression and scale. These final statements may be regarded as primary premisses of the science. But they, and their like in other sciences, are not what we have now in mind. The principles according to which we reason in any mediate process are not confined to any particular science. Nor are they first premisses or definite starting-points. They are rather principles *in accordance with which* and not *from which* we invariably argue.

completely certain and beyond all doubt. For if any demonstratively valid knowledge is ever to be possible it must be based on our conviction that the foundations of our reasoning are secure; and if we are not certain of these foundations, if we have the slightest cause for doubt, then we can put no confidence in the structure erected on them, however securely built it appear; we cannot, that is to say, but be sceptical. Furthermore, in the present case, we cannot save ourselves by making a show of suspending our judgement. It may be true that these principles are not valid; but if we once suspect this, then, while we continue to suspect, we must also doubt all knowledge gained discursively. We must, therefore, if we wish to affirm that discursive reasoning does give knowledge, also affirm that the first principles necessarily presupposed within it are valid. Thus, to all intents and purposes, the implicit denial present in the hesitation of one who withholds his judgement is in this case of like nature with and produces the same result as the explicit denial of the sceptic.¹

But, granting the necessity of a prior indubitable knowledge of such principles, what *do* we know when we know them? In the first place, since we are dealing with an instance of knowledge, the object in this case must be identical with the object of all other knowledge, namely, reality. In the second place, this view is confirmed by a further reflection. Unless the principles are valid, as holding of the real world, then no knowledge of that real world can be gained discursively. We have taken it for granted that knowledge must be of what *is*. Consequently, the mediation could not provide us with knowledge if the principles in accordance with which it proceeds did not hold of the real. If we started with principles not holding of the real and allowed ourselves to be guided by

¹ We may here add, as something that follows obviously upon the above reflection, that the first principles cannot be 'ordering conceptions' in the sense of hypotheses made by us that may or may not be true. The first principles *must* be true, or else all the rest of our thinking is invalid. We do not seek to establish them by mediate reasoning, as is the case with hypotheses, but we establish all that is established mediately by reasoning according to them.

them, then discursive reasoning would become, at best, a form of intellectual entertainment, pleasant enough in itself perhaps, but possessing, from the point of view of knowledge gained, no value whatsoever. It could tell us nothing about reality.

It follows, therefore, that in knowing the principles according to which we reason we must be knowing certain characteristic features of the real world as it is. We cannot avoid this conclusion without denying the very possibility of knowledge through discursive reasoning. We certainly could not avoid it by asserting that the principles hold of a half-real phenomenal or 'sensory' world immediately before us in thinking. For we have earlier¹ agreed to reject all phenomenalistic accounts of knowing. Knowledge, we contend, if it exists at all, is of the real, and not of what we know to be merely phenomenal. Hence, unless these principles, knowledge of which is presupposed as providing the foundation for mediation, are of the real, we cannot hope to gain knowledge discursively.

In order to illustrate the matter further, we may consider the principles individually. The principle of Non-Contradiction is formulated thus: "The same attribute cannot at the same time belong and not belong to the same subject and in the same respect." As thus formulated—this is one of its earliest formulations (and surely its best)—it is evident that the principle has to do with the real, and not with any merely ideal world. It does not apply merely to thought processes; though it does apply to them, since it applies to all things real. But the point is that in apprehending it we are apprehending a characteristic mark of what is. Reality, that is to say, is of such a nature that we are compelled never to admit patent

¹ In the second section of the first chapter. If the 'objective' world is conceived as a world of phenomena largely dependent upon the knower, no self-contradiction need then be involved in a theory which asserts that the principles holding in the 'objective' world are themselves the consequence of mind's synthetic activity. But we reject phenomenalism, and certainly should be contradicting ourselves if we put forward any such theory. The only possible position for us is the one set forth above. The principles known must be universal features of the real which we discover.

contradictions into our thinking about it. The same is true of the principle of Identity—"whatever is, is", or "a thing is what it is". The reference here is to real being, to everything that is. Anything possessing reality is what it is, and we cannot think it otherwise. Thirdly, we have the principle of Excluded Middle: "a subject either has or has not a certain attribute"; there is no third possibility. Here, again, knowledge of the principle is an apprehension of a fact about the real.

Such are the three principles recognized by logicians as being the bases of *all* thought—the so-called Laws of Thought.¹ The use of this latter term must not be taken to imply that the laws are *merely* of thought, or ideal only as opposed to real. For, once again, what is meant when we emphasize the need for such Laws of Thought as a basis is that human thinking and reasoning could never provide knowledge of the real unless the mind already possessed in reasoning a clear apprehension of certain facts about the real. We never carry forward our processes of mediation in complete ignorance of the matter under consideration. Throughout we have knowledge of the real, but in discursive reasoning we pass on to a fuller knowledge of it. And we may legitimately press this point further. Such prior knowledge gives us information as to the character which reality everywhere and always, universally, possesses. Before we can begin to reason discursively we must (speaking logically) first know the real, and also know something which holds universally of it. The real must be knowable and known by the human mind, even with regard to certain universal features of it. This is the ultimate presupposition of all discursive reasoning.

Such a conclusion seems inevitable. But what exactly does it signify? All knowledge gained demonstratively necessarily

¹ We emphasize the fact that they are the bases of all thought because their universality and all-pervasiveness is their distinguishing mark. And this must mean, we contend, that they hold of all reality. Whatever is real, whether it be 'subjective' or 'objective', must possess these features, and the mind cannot think of any real existence without conceiving of it as identical and self-consistent.

presupposes a knowledge of certain universal characteristics of reality, and if the former occurs, then clearly the latter already exists. Yet these obvious truths, we must now point out, throw no light on our actual knowing of the first principles. They simply show the necessity of that knowledge *if* further knowledge is to occur. Now, in the first place, it is still possible to doubt the occurrence of any further knowledge; and in such a case the necessity for a prior indubitable knowledge of principles would not arise. This, however, is a position we have agreed to reject. But, in the second place, even if we admit the existence of an ever-growing body of certain knowledge based ultimately on the principles, we can only argue from this to the necessary *existence* of the prior knowledge. We are given no information about the nature of that prior knowledge. The above argument can at most only confirm its existence by showing its necessity *if* knowledge has been gained demonstratively. Hence, to say that knowledge of the first principles is necessarily presupposed by all further knowledge is not to describe its nature. And this point should be emphasized, since it is sometimes carelessly assumed that we have said all there is to say about knowledge of the principles when we say that it is necessarily presupposed in all demonstration and therefore must exist.

How, then, are we to describe this knowing? We have already learnt that it cannot be mediate knowledge. Obviously, we do not know the principles with the help of principles—that is, through any process of demonstrative reasoning. Nor, again, can we say that the ‘objective’ world is itself mind-ordered, and that, therefore, the principles according to which the mind thinks are the very principles that order the ‘objective’ world. Finally, such knowledge cannot be ‘given’ by the senses; for they, if they ‘give’ any knowledge at all—and we deny this¹—could only ‘give’ knowledge of the present, the ‘here-now’, whereas in knowing the principles we know

¹ At the same time we, of course, admit that the determination of the mind in sensation is an occasion for knowing, and that the sensory experience, taken as a whole, is cognitive.

universal and all-pervasive characteristics holding throughout reality. What, then, are we to say? How do we know, for instance, that one and the same attribute cannot both belong and not belong at one and the same time to the same subject in the same respect? We can only answer that we know it as something self-evident. We directly 'perceive' the truth of the statement, and know beyond the possibility of doubt that reality never contradicts itself. It is immediate apprehension of the truth. The mind apprehends directly by that knowing power which belongs to it this universal feature of the real.

From the time we first begin to reason discursively, then, we know that the real world does not contradict itself, and we reason on this basis. Moreover, the fact that we do not at the time formulate this truth in precise logical terminology in no way deprives the knowledge we possess of its certainty. Our knowledge here is no opinion to which we hold even though we realize its possible falsity; nor, again, is it 'vague' or 'indefinite'. It is definite enough, as our use of it in reasoning proves. It is certain knowledge that we may or may not possess. We either know or do not know it, but we cannot be said to know it dimly, for if we once see that what is real cannot contradict itself, then we cannot later gain any greater clearness or any greater certainty on this point.¹

¹ Though we believe that this knowledge comes early in the mental history of a rational being, we do not wish to imply that it is innate. And, certainly, we should reject the view that because it is a self-evident truth—that the real cannot contradict itself—it *must* therefore be innate. A truth's self-evidence in no way makes it innate. For, obviously, what is perfectly self-evident to a trained mind may be incomprehensible to the untrained. In the last section of this chapter we shall point out how much mental preparation is frequently necessary before the mind is enabled to apprehend the self-evident. And, no doubt, we should not have learnt that the real is non-contradictory had we not first experienced certain experiences (for instance, the sensory experience), so that we can hardly be said to know even this truth innately. It is a later discovery. Our point, however, is that from the first discovery of it our knowledge here is certain and indubitable—a direct apprehension of one characteristic feature or mark of the real world.

If, then, we ever have certain knowledge, we have it when in discursive reasoning we proceed on the understanding that the real does not contradict itself. But what proofs have we to offer whereby this claim may be substantiated? Obviously none, except simply the proof of our own compelling conviction when we consider the matter. And if it be objected that the convictions of a fallible creature are an insufficient criterion, we can only reply that we cannot bring ourselves to admit the possibility of these principles being untrue. To deny them is to talk patent nonsense. To deny them significantly—and not merely in words—would be to conceive and to assert their opposite. But we simply cannot conceive a world in which a thing is what it is not. And what is true here is true also of the other principles. We cannot deny them. We may adopt, of course, the agnostic's attitude and believe nothing. But though we should thus cease to affirm the principles, we should not be denying them. Moreover, this attitude is itself hardly possible. We *know* that the real does not contradict itself, and on this matter we cannot not believe. Yet we cannot give any reasoned ground for our belief—if it were at all necessary. We believe because we know the real and are convinced that we know.

This is clearly an important matter, and we shall return to it later. In the meantime, it is obvious that if we have any knowledge at all of the real, we have it when we know the principles, and we shall proceed on this understanding. It is now, however, necessary to consider a further problem that arises in this connection. Are we to regard this knowledge of principles as something unique? In particular, does it completely differ in kind from the mediate knowledge which presupposes it? There will be no need to stress the prime importance of this problem for the present essay.

Knowledge of the first principles, we have agreed, cannot themselves be known demonstratively. It was the recognition of this truth that first led to the explicit formulation of the distinction, which has since played an important part in epistemological discussions, between mediate knowledge on

the one hand, which involves a process, and immediate on the other. The knowledge of the principles must be of the latter type. It cannot be the product of any inferential process, for every process of inference is based upon it. So much is clear. But this whole distinction is frequently set forth as if there were two completely distinct kinds of knowledge, capable of functioning apart from and wholly independent of each other, and as if mediate and immediate knowledge were absolutely different in their nature. Now, is this view sound? If accepted, the complexities of the epistemologist's problems are so increased that it becomes wellnigh impossible for him to give a satisfactory and consistent account of knowing. This, however, should not restrain us from accepting the view, if we can prove it to be sound. But we can hardly claim that we are now in a position to offer any such proof. For, assuredly, before we can assert with any show of authority that the knowledge involved in mediation is absolutely distinct from that of the first principles, our understanding of both kinds of knowing ought first to be intimate and thorough. But actually, while we have very little information as to the knowledge of first principles, we have at the present stage even less with regard to mediation. Therefore, until fuller information is obtained, the absoluteness of the distinction remains simply a conjecture, premature and as yet unjustified, which the facts when revealed may wholly fail to warrant.

Indeed, one interpretation of the distinction can easily be refuted on reflection. It may be said that the knowledge of the principles is unique (completely distinct from mediate knowledge) in the sheer purity of its intuition, an intuition which is so pure and so distinct that it needs an object which is itself distinct and purely simple. Now the *raison d'être* of such an interpretation is not far to seek. So closely is object related to subject in knowledge that if we once conceive of the knowing as distinct and unique we tend naturally to think of its object as being so also. A unique act of knowing suggests an equally unique object. Furthermore, it may be argued that the uniqueness of the object is not only suggested but made

necessary by the uniqueness of the knowing. For 'intuitive' knowing, it may be (and often has been) said, is unique in the sense that, unlike the laborious knowledge gained after long processes of reasoning, it takes in the *whole* truth at once; it 'grasps' the complete real directly at one grasp (to use a physical analogy). But if this is so, then it seems to follow that the real or the true, the object in this case, must be that which can be so grasped. It must, that is to say, be something complete in itself, totally distinct from all else, an isolated and discrete unit. What is known must be pure in the sense that it is throughout one and the same; it must be simple, having no parts and no connections; it must be a perfect unit which, being wholly independent of all else, is either known by this one act of apprehension or remains unknown for ever. Thus the exigencies of this view would compel us to see the ideal of all knowledge, the perfect example for which we have sought, in a sheer intuition of sheer simples, an atomistic intuitionism.¹

We shall devote the whole of the next chapter to a discussion of intuitive knowledge. In this section, all we wish to show with regard to it is that, whatever we assert about other cognitive experiences, knowledge of the first principles cannot be such sheer intuition of sheer simples. Against this position three objections might be urged.

In the first place, it has been seen that the principles are simply so many pervasive features or characteristics of the real known by us. Now, clearly, a feature of anything cannot itself be described as 'a discrete and isolated unit' without talking nonsense. At most, such a description could only be applicable to that of which it is a feature. If the above argument, therefore, demands a discrete unit as the object of the sheer intuition, then, obviously, knowledge of the principles could never be 'intuitive' in this sense. Consequently, the description a 'sheer intuition of sheer simples' cannot apply to our knowledge of the principles. We might, justifiably,

¹ The writings of Descartes provide us with an excellent example of this type of thinking; but it is in no way confined to his pages.

advance this argument further. For if it be correct to hold that such principles are in truth pervasive and common features of all things real, then it seems to follow that there cannot be any real object which is a discrete unit or an isolated atom if, again, we mean by the latter an object different throughout from all other objects. For the real world, if the principles do hold of it, could never contain within it any object having no possible ground of relation with other objects, since the first principles would apply to each and every object, and so there would always be something in common. Such a discrete unit could only be an intellectual entity created by abstraction from the real (if, indeed, intellect could ever create a pure unrelated); and, therefore, in becoming aware of it we should not be knowing what really is. It also follows that the ideal of knowledge can never be a sheer intuition of sheer simples in the above sense, since knowledge is of the real, and all real objects must, at least, be related in this respect, and have this much in common, that the first universal principles hold of them.

In the second place, our knowledge of the principles makes further knowledge possible. But an immediate apprehension of a purely discrete unit could never help us in our knowing, for though many such discretes were apprehended, no further knowledge could ever be drawn from them by any process of thought, and this because knowledge of a discrete unit could never tell us anything of the world beyond it. A pure discrete, that is to say, can never serve as a logical starting-point. Consequently, if knowledge of the principles were a sheer intuition of completely isolated discretes, then such knowledge could never play the supremely important part epistemologically which our knowledge of the principles actually does play. It could supply neither the logical basis nor the guidance necessary for discursive thought. On the other hand, if our knowledge of the principles does supply the required basis, then obviously it cannot be an intuition of sheer discretes.

Thirdly, however—and this is the most important objection we have to make—the position may be criticized on the

ground that it already isolates the knowledge of principles from mediate knowledge. For the implication of the theory under discussion is that the first apprehension of principles used in reasoning functions apart altogether from the subsequent reasoning and is wholly distinct from it. In the first place, it is implied, we gain knowledge of the principles intuitively, and then, in the second place, we draw our inferences and work to our conclusions. These two functions of the mind, it is supposed, are wholly distinct, though the second presupposes the first. This would mean that nowhere in the mediate process itself does knowledge of the principles occur, but that it only occurs before the process begins, and, being in essence different from it, cannot occur as an integral feature of it. Yet actually any mediate process that we take into consideration reveals the presence in it of a knowing of principles. Each step in a valid mediate process can only be taken by a mind apprehending simultaneously the first principles. Thus in mediate processes the mind adopts one course rather than another because it knows that, for example, a thing cannot possess two contradictory attributes and so contradict itself. Every movement in the process presupposes a present knowledge of these principles—that is to say, of the fundamental structure of the real. It is therefore absurd to suggest that the knowledge of the principles is not an integral part of the knowing involved in mediation, since if it were not throughout present there would be no mediation whatsoever. Knowledge of the principles, therefore, is not something completely distinct from discursive reasoning. On the contrary, it is itself a feature and a part of that reasoning, and without it the reasoning could not occur.

Thus the knowledge of principles presupposed in mediation cannot be conceived as an intuition unique in character and differing absolutely from every other instance of knowing; nor is its object a mere isolated and discrete unit. If this were its real character, mediation could not possibly presuppose it. We should not, of course, deny that the knowing of the first principles is 'intuitive' in the sense of being direct or imme-

mediate. We consider the description 'a direct and immediate knowledge or apprehension of the real' an excellent one in this context. What we should seriously question, however, is the implication that the same description cannot be applied to other instances of knowing, particularly to the knowing present in discursive reasoning. Indeed, so far as we can see at the present moment, the real difference between the knowing of principles and that which occurs in and through discursive reasoning may be external to the actual knowing itself, which as such may be one and the same in both these cognitive experiences. It is certainly not permissible to argue that since the knowledge of the principles is logically prior to any knowledge that comes discursively it must be essentially different from it *qua* knowing.

Mediation then, we can now say, presupposes as a wholly necessary precondition a knowledge, in the first place, of existence—a knowledge, as we contend, present in the lowest forms of the sensory experience—and in the second place, of the general structure of that existence. The necessary priority of the latter, however, we must hasten to add, is logical, not chronological. For it is false to suppose that knowledge of the principles comes first in time and is isolated from the knowledge present in mediation. On the contrary, knowledge of the principles, we have seen, is an essential part of the knowing in mediation, though we are not at present exactly aware of how great a part. It is evident, however, that it cannot be the whole of the knowledge therein contained, since in mediation we claim to know more than the mere general structure of what is, whereas knowledge of the principles provides us simply with this bare general structure.

To conclude: though we do not understand as yet the exact place of this prior knowledge in mediation, we have learnt enough about it to enable us to assert without fear of refutation that the knowledge of the principles cannot be regarded as an 'intuition' or direct apprehension, distinct from all other kinds of knowing, and having a distinct object. On the contrary, knowledge of the principles is so intimately related to the

mediation which presupposes it that it cannot be considered as an instance of an isolated knowing complete in itself. Though it itself is clearly not the product of any mediate process, it is nevertheless embedded in processes of mediation. And before we can understand its nature we must learn more as to the meaning of the whole mediate process and as to the way in which greater knowledge results from it.

2

The 'Experience' Presupposed

All discursive reasoning, we have urged, presupposes a knowledge of the principles. Does it presuppose any further knowledge? Obviously, it presupposes something further (whether this be knowledge or not), since we could not proceed very far discursively if we were completely confined at the outset to a knowledge of bare first principles. The latter is certainly a condition *sine qua non* of all sound argument; but it does not provide premisses for any particular piece of reasoning. We must begin our process of discursive reasoning with definite information of some sort that may serve as premisses for our argument. But how do we gain this information? It is customary to answer that the content upon which and about which we reason is provided us in 'experience'. Now this answer needs to be examined further, for as it stands many different interpretations of it are possible.

It is first necessary to set forth and criticize one interpretation which we believe to be fundamentally unsound, in spite of the fact that, in some form or other, it appears frequently in philosophical speculation. For it may be said that if experience does 'give' the content, then it cannot be the task of discursive reasoning to 'give' it over again. If we already know the content by way of 'experience', then clearly we do not need to *re-know* the same content by way of reasoning. The view, of course, tacitly assumes that 'experience' and 'dis-

cursive reasoning' are fundamentally distinct faculties of the mind having different functions, and since it is the function of the former to stock the mind with information about the real, it cannot also be the function of the latter. As a consequence, discursive reasoning as apart from 'experiencing' cannot, strictly speaking, be a knowing. It becomes for such thinkers something else, namely, a doing. In discursive reasoning we *do* something with the content already known.

The doing is a conceiving of concepts, whose necessity becomes obvious on a moment's reflection. For 'experience', on the present view, is supposed to provide us directly with knowledge of different particulars as they exist in the supposedly real world. But a world of particulars, owing to its endless complexity, is difficult to handle. Therefore, the task of reasoning is to conceive and use concepts or universals, each of which stands for a bundle of particulars. By this means the knowledge we already possess becomes easier to retain, to apply, and to communicate. Concepts are shorthand notes that save an immense amount of intellectual labour on our part. But their conceiving is clearly not a knowing on this view, even though we grant that greater knowledge may result after conceiving them because of the real economy secured and because the mind is then left freer than it would otherwise be. Also, conceptualizing enables the mind to bring many particulars together, so that it can provide itself with a more comprehensive view of the real known by experience. Yet the conceptualizing itself is a doing here, and not a knowing. The concept is created, not known. Moreover, it is created in order to be used. We group together a bundle of particulars, agree upon a common name for the bundle, and so facilitate future reference to any particular within this group or class. But we do not increase our knowledge of the real in any way. At the most, what is additional is the name. All we know about the real, however, is already given in 'experience' before the conceptualizing begins.

Such nominalism as is here set forth is no new doctrine. But, lately, it has taken upon itself a new form—the economic

theory of the concept. This theory concerns itself more particularly with scientific thinking, one instance of discursive reasoning.¹ It is held, explicitly or implicitly, in some form or other—for it appears in many guises—by a large number of philosophers and scientists. It is the ground for much of the anti-intellectualism prevalent in Europe and America during the present century. And since it is so important, we shall devote the rest of this section to a critical examination of it. Here, again, we do not intend to adopt the historical method, but shall content ourselves with a statement of the theory in its most explicit form and with an attempted criticism showing both its strength and its weakness.

Scientific thinking, the theory holds, is in essence practical, both in itself and in its purpose. It is the creating of a concept for use. The discursive thinking which is scientific reasoning gives us and can give us no new knowledge. Any further knowledge over and above the beginnings 'given' in experience must be expected not from scientific reasoning but from the use of another faculty. Thus, some who adopt the present view declare that an 'intuition' of living reality can take place in which no reasoning occurs, and that our hope of pure knowledge lies in this 'intuition'. Others assert that within 'reasoning' in its widest sense we have also to include the pure knowledge of real being, as depicted, for instance, in Reason's knowledge of the pure concepts or categories.² But while a door is thus left open for the entrance of pure knowledge, both schools reject the view that science is pure knowledge. Science can only give us the pseudo-concept or artificial creation made for use and for use alone. In scientific reasoning the mind 'conceptualizes' or 'intellectualizes' the content given by experience, solidifying the flow of the real,

¹ It is not the only instance, obviously, if we mean by 'science', as is usual to-day, the mathematical description of nature. Philosophical thinking is another instance of discursive reasoning; for example, the reasoning about moral, epistemological, and ontological problems.

² The two schools we have more particularly in mind, of course, are the Bergsonian and the Italian Idealist respectively.

breaking it up into bits and pieces and disregarding the *differentia* of each particular as compared with any other within a species. It does this because a 'conceptualized' or 'intellectualized' content can more readily and more adequately satisfy the demands made upon it by the mind (which needs must use its knowledge) than can an 'unintellectualized' content. The aim of scientific reasoning is not the gaining of new knowledge. Its real purpose is to secure an easier application and a more efficient use of the knowledge we already possess; we can do more with 'conceptualized' knowledge than with that which is not 'conceptualized'.

Now this theory, we readily admit, is a very important contribution to epistemology. It stresses the modern tendency, prevalent even amongst scientists themselves, to doubt the absoluteness of the results of scientific inquiry. It takes this tendency to its extreme and denies science all cognitive value. At the same time, however, it recognizes its supreme economic value. No instrument has ever served mankind better. But the value of such reasoning, the theory asserts, is practical rather than theoretical. The real knowledge—in so far as there is real knowledge—has already occurred before we begin to be scientific.¹ The scientific concepts are economic 'goods', made to be used. They must not be conceived as providing truth. They exist in order to serve a practical purpose. Science does not give truth: it controls nature. If we desire knowledge of reality we must seek for it elsewhere.

In fairness to such thinkers, however, we must here note a further point. Their position cannot be identified with the Pragmatic school of thinkers who teach that knowledge itself is wholly utilitarian (or pragmatic) in character. Knowledge, the latter would assert, is merely 'what works'. It is completely subservient to action and is determined by our practical needs. Whatever best suits our convenience at any moment, that, for the time being, is knowledge. Now the theorists whom we are at present considering do not hold this view. Some of them

¹ As one exponent of the view neatly asserts: Science is fructifera, but not lucifera. Its soul is utility.

would most emphatically reject it. Knowledge for them is not merely 'what works'. It may prove to help us practically in a particular case; in another it may not. Its utility is merely an accidental quality of it. Their real point, however, is that scientific reasoning is definitely and essentially utilitarian, definitely a doing and *not* an instance of knowing in any sense. The conceptualistic process is simply an economy. Its aim is not to know but to save mental labour. The most we can say for it is that it seeks to make greater knowledge possible, but we are never to say that it of itself knows.

This doctrine is in certain important respects sound. It sets forward explicitly one feature of scientific reasoning which needed recognition and emphasis. Beyond a doubt such reasoning is a labour-saving device. The concepts that it uses have a practical value. They are often enough simply 'ordering conceptions' which help the scientist as he struggles to control nature.¹ To conceive them in themselves would not be to know the real. Undoubtedly, again, the scientist does not concern himself with, does not seek to know, many real details which could, he thinks, prove of no value to him. He ignores them. He is compelled to select. Science is certainly an economy, and, *as such*, considering only this side of its nature, it cannot be described as a knowing. So much seems true. In the next section we shall suggest that some such doctrine as this must be true not only of scientific reasoning, but of all mediation and of all discursive thinking. It invariably involves an element which is merely a doing.

Yet, though there is obviously an element of truth in this doctrine, we nevertheless believe that, as it stands, it is unsound. As an account of scientific reasoning, taken as a whole, it leaves too much unsaid. It emphasizes one feature only, and consequently fails to present a true view of the whole. Scientific reasoning is admittedly an economizing, but,

¹ 'The history of science gives us many examples of 'ordering conceptions', some of which have long since been discarded. Such are, for instance, the concepts of caloric and ether which dominated eighteenth-century scientific reasoning.

as we hope to show, it is also a knowing. And we cannot describe it fully unless we recognize the presence of this additional feature. For, like the sensory experience, scientific reasoning also, we shall contend, is a cognitive experience, even though there be that within it which is non-cognitive in character.

By way of preparation for the fuller description of discursive reasoning which we hope to proffer in the next section, we may here consider in greater detail the practical or economic feature of scientific reasoning. We shall also show how impossible the position becomes if we think of scientific reasoning merely in terms of this one feature of it.

We may begin by pointing out that the economy under consideration can be secured in, at least, two ways: firstly, by arranging and ordering the knowledge we already possess in such a manner as to facilitate access to it; secondly, by learning how to deal with and how to control that of which we are partially ignorant. The second process enables us to act upon an object without first gaining full and adequate knowledge of it. It is clearly the more difficult task and demands the greater ingenuity.

The first is a feature of thought everywhere. Indeed, the classifying and grouping, the ordering and systematizing, which provide formal logic with much of its subject-matter, may, from this point of view, be regarded as the effort present in all thought to lessen the mind's labours by presenting it with a connected system of knowledge. If there were no such systematizing in thought, the mind would always be faced with the completest disorder. Its knowledge would be heaped up in a chaotic mass, so chaotic that it could prove of little use in everyday life. Thought, as being an organizing and ordering activity, is that which safeguards the mind from a danger which is for ever threatening it, namely, that the knowledge it already possesses may become so inaccessible as to be worthless for all practical purposes. To avoid this the mind thinks in an orderly fashion (tabulating according to its concepts of species, genus, class, particular, universal,

individual, and so on), in order that it may be enabled to make as full a use of such knowledge as it possibly can.

This, therefore, is the first type of economizing connected with scientific thought. Now clearly, in such a case, thinking is not merely a doing. It is also a knowing. With each step forward in the work of systematizing and ordering we gain new knowledge of what can and of what cannot be linked together and related. We recognize, to say the least, in the present experience some feature or features common to many past experiences. We apprehend an identity, an apprehension which is definitely something cognitive. Moreover, our general divisions and systematizings (according to which we classify this present particular under its universal) would be valueless from a practical point of view if they were merely arbitrary. We must 'divide at the joints', and this implies that we know where the joints are. The doing in this case must at one and the same time be a knowing if it is to achieve its purpose. And—to repeat a tautology—it must be a knowing of the real; that is, of the world within which and upon which we act. Hence, to emphasize the very real economic value of such a systematizing process is a necessity, for it does present us with an orderly rather than a disorderly world, and so retains as accessible what might otherwise become inaccessible. But this does not justify the further assertion that the process is purely a *doing*. For knowing, as we have shown, is inevitably a part of it, and, indeed, the main problems connected with it are essentially theoretical.

But, perhaps, we are overthrowing a mere man of straw. For those who teach the economic doctrine of the concept might themselves readily admit that the particular kind of doing now under consideration must be accompanied by a knowing if it is to occur at all. Yet this, they might argue, is not the doing which is *par excellence* scientific reasoning. The latter is a doing of quite a different order, and is in no way a knowing. The concept (or pseudo-concept) of science, they might say, remains as yet wholly unconsidered by us. For it is not a feature of, or, again, a division in, reality. It is a symbol

(for something in reality) used by the mind when it reasons scientifically. The scientist, they say, usually supposes, rightly or wrongly, that reality consists of individual things which affect us in the sensory experience. He also believes that the real individual is not revealed immediately and completely in sense-experience. For instance, he would be more ready to believe that the table upon which I write is an entity, consisting of a very great number of atoms, somehow knit together, than that it is the solid, unbroken piece of matter about whose existence the crude sensationalist would feel so confident. None the less, he finds in the sensory experience an invaluable aid from a practical point of view. For in it there recur often with great frequency certain regularities which he notes, and in time he is led to assume that such regularities are universal throughout sense-experience and will invariably recur in his own history and in that of other people. On this assumption he acts, and frequently his future experiences do justify his first assumptions, giving him a greater confidence in them. He seeks for more recurrences of the same type, his method being that of abstraction. He explicitly disregards all that is unique and does not recur.

How, then, according to these theories, does he form his concepts? They are already being formed. He now combines together certain of these recurring features which have always gone together in his experience, and to this combination he gives a name. This is his concept, an entity which, of course, does not exist apart from his conceiving of it. Is it not obvious, they would now ask, that when he does so conceive he knows nothing? For if he knew, he would know the real; but the real is the concrete individual, and not this collection of more or less regular recurrences. For all practical purposes—and the view presupposes that the scientist's purposes are wholly practical—it is sufficient for him to conceive his concept, a symbol of the real which helps him to handle it. He need not know the real, and, strictly speaking, never endeavours to do so. His concept is a general symbol for many real individuals, and the unique features, the idiosyncrasies of the latter are

wholly left out of account. They are *differentiæ* which do not matter for the scientist's present purpose.

Moreover, by reasoning conceptually, and not about each individual as such, he is able to make a fuller use of the ordering and classifying which is also part of scientific method. For the unique, which defies classification, is disregarded by the scientist. A botanist, for instance, when enjoying a perceptual experience, which we call 'seeing a particular buttercup', recognizes what he sees as an instance of the species Buttercup, a concept with which he is already well acquainted. But this again, he recollects, is a member of an equally familiar genus, Ranunculus. Consequently, by recognizing it as an instance of this species and genus, he indirectly learns a great deal which would help him to deal with this individual buttercup, though he knows next to nothing of it itself. When the scientist conceives Ranunculus, he is, speaking strictly, knowing no real existence, according to these theorists. The real existence is the individual buttercup; Ranunculus is a concept I have conceived. Yet such concept-making enables me to deal with the real things, namely, these individual buttercups, in a way that would be otherwise impossible in the circumstances.

But the method permits of a much more extensive use. Thought's capacity for systematizing and ordering, its practice of setting out in compartments and of 'pigeon-holing', may further enable it to connect a concept with a whole order or system of concepts having its own formulæ or conceptual abridgements of long processes of reasoning. Thus, when seeking to determine and to define certain variations in physical phenomena, we may observe that the changes under consideration always occur according to an order which we have met with elsewhere—for example, in mathematics. Having observed this, we may endeavour to work out our problem mathematically, making as much use as possible of the formulæ which are the stock-in-trade of every mathematician. In this manner we may quickly and easily gain precise results, whereas, if we had continued to search for them by observing the changes in the physical world alone, much greater mental

labour and energy would have been necessary, while perhaps the actual result gained would not have been so complete. Such an application of mathematics to physics occurs more and more frequently.

But the important point to note in this connection, our theorists would say, is that no new knowledge has been gained. Our doing gives no knowledge of the real, but it determines it conceptually in such a way that we can act upon it efficiently. The subject-matter of the scientist's thinking is the concept, and never the real individual, if there be such. For it is only when dealing with conceptual symbols of the real that he can make use of the formulæ belonging to a particular system of concepts. The formulæ cannot apply to the real individual as it is, different from all else. Hence it follows that, however successful the scientist be when using this method, he never comes to the knowledge of the individual as such by its means. That is not the purpose of the symbolization. Yet, without coming to know the individual thing in itself, the symbolization through concepts enables him to 'handle' such an individual much more successfully than he would otherwise be able to do. If, therefore, we expected from science knowledge of the real individual thing, our expectations could never be fulfilled; for from the moment we begin to be scientific we are no longer dealing with the individual thing as it is in its full reality.

Taking all these facts into consideration, the theorist feels himself justified in concluding that scientific thought should no longer be conceived as a knowing. We do not know the real through such thinking; we merely learn how to handle it. 'Conceptualizing' is never as such concerned with knowing reality. It is explicitly an economy. When conceptualizing we do not know anything fresh, but create (with the help of past knowledge) and make use of the concept. In science, such theorists contend, we sacrifice exact knowledge in order to satisfy our more immediate need for action and to secure control at the earliest possible moment over the forces of nature. It is for this reason that we bring into being and con-

ceive an unreal, split-up, 'pigeon-holed', but more tractable world.

Now, how far is the position here outlined correct? We have already seen that the success of scientific reasoning in ordering and classifying its content is itself sufficient proof of its more comprehensive knowledge of the real. What of the scientific concept? Are we, in conceiving, also knowing (even though our primary purpose is practical)? Or is it merely a doing? That the first alternative in this case is the sounder in spite of the above theorists is suggested by the fact that purposive acting in adult human behaviour, such as the scientist's, invariably implies knowing, and that, therefore, if through scientific reasoning increased action becomes possible, this in itself is a sure sign of an increase in knowledge also. It is quite true that we may and continually do act on things without knowing everything about them, yet "the surest way to secure a more efficient control over anything is to increase the sum-total of our knowledge about that thing. For how could a mere 'conceptualizing', that never sought to know the unknown, help us to 'work' more satisfactorily on the unknown? It clearly could not. The hard-and-fast distinction between 'doing' and 'knowing' is illusory. Every doing is in part a knowing; all human action is that of a knowing mind. The absolute distinction thus glibly pre-supposed by adherents of the economic theory of the concept is artificial in the extreme. To uphold it is to do an injustice to the facts of human experience. Acting implies knowledge throughout.

At present, however, we need not follow out this line of criticism. Such generalities as these are apt to produce vagueness and indefiniteness, whereas, in this case at least, a clearer and more apt criticism is at hand. For, according to the theory, the concept is made for use. Yet once the position is fairly understood, it is difficult to see how such a 'creation' could ever be of any use. Instead of aiding the mind in its dealings with the real, it itself cannot but mislead it on every possible occasion. For, on this view, the real is unlike the 'conceptual stuff' created by the scientists. The real is not split-up and

'pigeon-holed' into distinct compartments. It is only our failing intellects that need the 'split-up' conception of it. It is we who solidify the ceaseless flow of real life and create the concept by cutting out a piece of the mass thus solidified and giving it a name. This unreal symbol of the real we preserve and communicate for our use. But surely, on the face of it, there is something absurd in the position. If I ever did make use of these unrels, how could I hope thereby to deal more effectively with the real? How can I, carrying on processes of reflecting about a split-up world, hope to handle the real life-flow more successfully? Would not such 'conceptualizing' decrease rather than increase my power of acting on the real? Would not such a creation be valueless or even definitely harmful? The only conceivable manner in which the 'creation' could be of real use would be as turned back again into the fluid mass. The concept made for use, that is to say, is useless until we know or perceive that moment of the flowing reality, as it actually is, for which the concept stands and of which it is the solidification. Otherwise, it misleads the mind, causing it to believe, for instance, that it has to deal with solid lumps of stuff, rather than with a ceaselessly flowing real.

But, again, supposing it were possible for the mind to recollect, with the aid of the concept, that aspect of reality which it solidifies, this recollection, on the view under consideration, would prove equally valueless. For the ever-changing real would have taken upon itself in the meantime a new aspect, and we should therefore recollect what had already become unreal. That is to say, to act on the real world at any particular moment we must have knowledge of the real as it is at that moment. And this is true whatever view we adopt as to the nature of the real, whether it be a ceaseless flow, or a block universe, or anything else we choose. If the concept fails to provide such knowledge, it is worse than useless. Conceptualizing must be itself a knowing; it cannot be merely a doing of something with knowledge gained beforehand. For if we find it easier to act on the real as the result of a con-

ceptual process, our increased facility of action must be due to the fact that the conceptual process has itself increased our knowledge of that real.

As it stands, therefore, we cannot accept the economic theory of the concept. So long as it contents itself with describing scientific reasoning in terms of 'doing' only, its description must remain inadequate. For the practical success resultant upon such reasoning is in itself a sign that new knowledge of the real is being gained in the process. We may certainly *use* symbols to help us. Also we have a right to guess at the truth when we do not know it, and even to assume certain things to be true for practical purposes and for the time being. We have never denied this. Certainly, again, scientific reasoning is an 'economizing', and to think of it as such is to gain a better understanding of its nature. But if no more be said the description is totally inadequate, and, as such, falls away from the truth.

All such description is misleading not because scientific reasoning is affirmed to be a doing, but because it is affirmed to be *merely* a doing. The suggestion that a process of scientific reasoning nowhere involves *as an essential feature of it* a knowing cannot stand examination. Knowing, we contend, is part of the inmost structure of that intellectual activity termed scientific reasoning. Furthermore, and this is the most important point of criticism we wish to make, the denial of this assertion would have been wholly impossible were it not that a serious error had crept into speculations about the intellect's work. We refer to the erroneous supposition with which we began this section, namely, that a stock of knowledge lies ready to hand in the mind, and that then thought or reasoning, or, again, intellect, begins on its task of 'handling' the already known.

This is an old fallacy. None the less, the new economic theory of the concept, as we have before suggested, is grounded upon it. For the position set forth above is but the modern counterpart of the nominalistic tendencies of past generations of philosophers. As such, we reject it. The intellectual process,

if it involves a doing, is also at one and the same time a knowing; and while emphasis on the economic value of such a process is permissible and necessary, no true view of its nature can be attained unless equal emphasis is laid on the cognitive character of the process.

If we now return to the problem with which we started this section, namely, the problem as to the legitimate use that may be made of the term 'experience', we may conclude that we must not speak of it as providing grist for the mill of intellect, stocking the mind with a knowledge-content in order that the intellect may work upon it, if by this it be also meant that the intellect itself need know nothing further. This view of the relation of 'experience' and 'thought' is unsound, for, as we have shown, it is difficult to see how in these circumstances what the intellect did with the knowledge given it could prove of the slightest value. But if this view is false, what is the true one? Is there a legitimate use of the term 'experience'? Can it ever mean something necessarily presupposed by a process of mediate thinking? These questions open up the whole problem of the true nature of mediation, and we can no longer evade a definite discussion of it. For no final solution of these preliminary problems concerning the presuppositions of mediation can be given until we solve the central problem, namely, "What does the phrase '*mediate knowledge*' itself connote"?

3

The Nature of Mediate Knowledge

In this section we hope to gather up the strands of the preceding argument. Up to the present, our search for a perfect example of knowing has led us, firstly, to deny that seeing a colour, hearing a sound, and so on, is knowing; secondly, to assert that the sensory experience is nevertheless cognitive; thirdly, to reject the theory that the apprehension

of the first principles (while it obviously is knowledge) is a knowledge of sheerly discrete simples; fourthly, to dispute the economic theory of the concept according to which conceiving is merely a 'doing'. But while we have succeeded in establishing these positions, it is obvious that the perfect example of knowledge for which we seek remains undiscovered. The sensory experience is a complex whole whose most characteristic part is non-cognitive. The knowledge of first principles is embedded in discursive reasoning, and is not in itself a whole concrete experience. Scientific reasoning, the one instance of discursive reasoning as yet considered by us, has revealed itself to be in part a 'doing', even though, as we contend, the 'doing' could not occur without a concomitant knowing. Nowhere have we discovered an experience which is through and through pure knowing.

Nevertheless, each of these experiences is 'cognitive, even though none of them is wholly knowing, and in examining them we have already gathered certain facts about the cognitive experience in general. Thus we have agreed that the knowledge of principles is the immediate apprehension, present in discursive reasoning, of certain universal characteristics possessed by the real. An active mind apprehends or grasps the real straightway. The analogy implied is, of course, that of physical grasping, as when I grasp a physical object. And though it does not follow that this analogy most appropriately expresses the real character of knowing in every other connection, it seems apt when applied to knowledge of the principles.

But now the specific problem of the present section arises. For in outward appearance, at least, most of what we ordinarily suppose to be knowledge fails to conform with the above description. It is not direct, but indirect. Are there, then, two kinds of knowing, the one direct, an apprehending, and the other indirect, something different in kind? An affirmative answer seems to be inevitable, but we hesitate. For have we not seen that our best instance of immediate knowledge is itself somehow embedded in a process of discursive reasoning

whereby we hope to gain knowledge indirectly or mediately?¹ Can mediate knowledge, then, be immediate, even in part? Now a full and complete account of mediate knowledge would, no doubt, include a thorough-going logic of all inferential processes, both deductive and inductive. But such a logic would be beyond the scope of the present work. Instead, we shall confine ourselves to the consideration of two problems, whose solution ought to throw further light upon the nature of knowing. Firstly, what exactly do we mean when we talk of knowing *mediately*? And, secondly, how does this knowing compare with that which is immediate? In answering the first question, of course, we shall have already, implicitly at least, answered the second.

Our present problem, then, is to determine the nature of mediate knowledge and to distinguish it from immediate knowledge. And in order to make our position completely clear, we propose to put forward without further delay the main thesis of this section. We wish to argue that a hard-and-fast distinction between mediate and immediate knowledge, in which these are taken to be two distinct types of knowledge, cannot stand examination. Actually, all knowledge, wherever and whenever it occurs, is immediate in character; the facts, when considered, justify no other interpretation of them. Nevertheless, this statement is in no way incompatible with a continued use on our part of the term 'mediate knowledge', and we do not intend to dispense with the latter. For it expresses something which definitely needs to be expressed. The unfortunate fact is that when we analyse instances of 'mediate knowledge' we find that the phrase carries with it two significations, and that neither of these significations can be disregarded. In the first place, we mean by it an immediate knowledge of an implication considered not so much in itself but with special reference to the light it throws upon the subject of the conclusion implied. As an illustration, we have

¹ For the present we use 'indirect' and 'mediate' as synonymous terms. What we mean to express by them will be further illustrated by examples in the pages that immediately follow.

our mediate (or indirect) knowledge about S in a syllogism that it is P. We shall proceed to consider this instance in the next paragraph. In the second place, 'mediate knowledge' frequently connotes a complete thought-process culminating in a knowing (which is itself immediate) or in an opining.¹ The knowing or opining becomes possible as the result of the process. To add to our difficulties, we also find that the phrase is habitually used to connote both significations at one and the same time, that frequently the culminating knowing or opining is itself of an implication.

We must consider the matter in greater detail. A very good illustration of mediation is the perfect syllogism: M is P. This is the major term, in which we assert a universal truth or general principle. S is M—our minor term, asserting a particular truth. There follows the conclusion, S is P. We do not know directly that S is P; we know it indirectly. We see that the premisses imply it. Now, how can we best describe the mediation present in this syllogism? It would obviously not be an adequate description of it to say that it is a sequence of three true judgements; nor even a sequence of three judgements such that the final could not occur had not the first judgements preceded it. For though this latter might pass as a very superficial definition of syllogism, it does not set forth satisfactorily the inmost nature of the experience. It does not state positively that the final judgement is implied in the premisses, and it does not show the nature of its necessary derivation. The perfect syllogism, we should rather say, expresses verbally one whole movement of thought in which the premisses are seen necessarily to imply the conclusion. This statement, of course, is no definition of the syllogism as such, since it could be applied to any piece of sound inference, and not all inference is syllogistic. It is none the less valuable for our purpose, since it draws attention to the mediation present and seeks to describe it. The description is still superficial, as we hope to show. But it does bring out the first important

¹ In the latter case we have, strictly speaking, not 'mediate knowledge', but an opinion arrived at mediately.

consideration. Knowledge can occur mediately because we can see necessary implications.

By this we mean that, granted a general rule of the type M is P , which must hold of all instances of M , and granted also that S is one instance of M , then this system of relations already implies that S is P . In other words, granted that something can be predicated as holding of a general term, and also that S can be subsumed under this general term, then the predicate must equally apply to S . Now, if we analyse the above argument, it will be evident that it is based upon our knowledge of two relations, namely, the subject-attribute and the member-class relations. Our knowledge of the former alone makes possible the predication of M by P and S by M ; while that of the latter enables us to relate S and M . Our argument could not occur without a definite knowledge of these relations. Furthermore, we know that if M is P and S is M , then S is P . The sum of our knowledge, then, in the present case is that of the two relations,¹ together with the further knowledge that these relations under the conditions found in the demonstrative syllogism entail or imply a third relation. This third relation holds between S and P . No further knowledge is necessary to complete the syllogism.

But we have said that the perfect syllogism is an excellent example of mediate knowledge. In what manner, then, does the knowledge present in it differ from the immediate kind? This is a difficult question to answer. For, firstly, knowledge of the above relations, subject-attribute, member-class, seems to be definitely immediate. It is a direct apprehension of objective relations. (Indeed, that these relations cannot themselves be known syllogistically is obvious once we remember that knowledge of them is presupposed by all syllogism, and, in this respect, they are on the same footing as the co-called Laws of Thought. Like the latter, they are characteristics of reality that we must first (speaking logically) know if we are

¹ In order to avoid confusion, it is perhaps best to add that by these two relations we do not mean the two premisses.

to *syllogize* about reality.¹) Nor, secondly, is the knowledge of the implication mediate. For we immediately see that if M is P, and S is M, then S must be P. But if this is all the knowledge that occurs in the syllogism, why call it mediate knowledge? The position seems to be that whenever we observe ourselves knowing, we find that our actual knowledge is immediate in character, whereas it is also clear that the syllogism as a whole is an instance of mediate knowledge. How can we overcome this seeming contradiction?

It cannot, if we are honest with ourselves, be overcome by supposing that knowledge of the implication is in some way not immediate. As far as we can see, it is so patently immediate that to suppose otherwise is really impossible. Consequently, we cannot agree that the actual knowing in the syllogism is itself a passage or a development from premisses to conclusion, and that in this sense only is it to be termed 'mediate'. For this latter position seems to rest upon the erroneous assumption that the implication, the relation between premisses and conclusion, *is* itself the knowledge. Whereas it seems obvious that the actual knowing is not the implication as such, but rather our 'seeing' or our direct knowledge of this implication. Of course, it is the fact of implication which makes syllogism (and all inference) possible. We could not know the implication unless the premisses actually do imply the conclusion. But the implication, none the less, belongs to the objective rather than to the subjective side, to the known rather than to the knowing. In other words, however much the premisses imply the conclusion, no positive knowledge is gained until a mind, possessing the capacity to know, actually does know the implication. This is a fundamental fact; obvious perhaps, but yet dangerous to ignore, and fully worthy of our emphasis. For it makes it impossible for us to admit that syllogism—and for that matter inference in general—can be

¹ Whether knowledge of them is presupposed in *all* possible types of mediation or inference is, however, another question. Can we say, for instance, that the inference which is arithmetical calculation presupposes them?

rightly described as "the ideal self-development of an object".¹ Mediate knowledge, we feel, is falsely conceived if it be conceived as a self-development. We readily admit that the conclusion of the syllogism is completely dependent on, wholly implied in, the premisses, but the knowledge which is present in the syllogism is *of* this dependence or implication. It is in no way identical with the implication itself. Hence, we use loose and dangerous language if we say that the knowledge present *is* the passage from premisses to conclusion, or *is* the development of the premisses into the conclusion. Actually, the knowledge which is the core of the syllogism is the immediate apprehension that the premisses imply the conclusion.²

We must, then, face the major difficulty. Viewed cognitively, the best possible instance of mediate knowledge, namely, the perfect syllogism, is essentially an act of immediate knowledge, however much it differ in certain respects from other instances of knowing. Syllogism most certainly cannot be regarded as the verbal expression of a type of knowledge distinct in kind from immediate knowledge. And what is here true of syllogism is surely true of all inference. What we describe as a process of coming to know X as the result of knowing Y, where Y is a premiss or a system of premisses, is really a seeing that Y

¹ The phrase is Mr. Bradley's. Cf. *Logic*, 2nd edit., p. 597.

² In passing, we may add that the occurrence of syllogisms which are perfectly valid in spite of the fact that they start from false premisses in itself shows how the apprehension of the implication *is* the core of the syllogism. What we know categorically in syllogism *is such* is the implication. Given the premisses, then we see immediately that the conclusion must follow. Moreover, because the knowledge of the implication is the essential element, we can quite legitimately syllogize even when we are not certain that P holds for all M, or, again, that S is actually one instance of M. We can argue syllogistically to conclusions that are probable only, proceeding from premisses only probably true. But if our thinking is to be valid, we must feel convinced beyond the possibility of doubt that the premisses do imply the conclusion. Here is the real knowing which occurs at the heart of the syllogism, and this, we argue, is immediate in character.

implies X. What we call knowing X indirectly is really knowing directly that X is implied by the premiss or premisses. We know that S is P indirectly; and this means that we directly know it to be implied in the premisses M is P and S is M. That is to say, we know the conclusion hypothetically, *if* so-and-so, *then* so-and-so; but from the standpoint of the actual knowing this is merely to say that we know the implication of the premisses categorically. No additional knowledge is involved. And the categorical knowledge in this case is direct apprehension. Hence, if what we say is sound, it follows that the difference between immediate and mediate knowledge cannot lie in the character of the actual knowing as such in both cases. The only observable difference at present is a difference caused by looking at one and the same thing from different points of view. We apprehend an implication directly, but by one and the same act learn something (indirectly) about the subject of the conclusion. Thus, though the actual knowledge is immediate, we may mean by 'mediate knowledge' the indirect knowledge we have about the subject of a conclusion, which conclusion we immediately see to be implied in certain premisses.¹

But there is another sense in which we can talk of mediate knowledge, and the syllogism again illustrates this further sense. It is a sense of the term made possible by the fact that we frequently denote by the word 'knowledge' not only the *act* of knowing itself, but also a whole thought *process* within which such a knowing occurs. Consequently, while we continue to affirm that the actual knowing in the case of the syllogism

¹ Have we not here also the key to the understanding of the distinction between the so-called 'knowledge by acquaintance' and 'knowledge about'? Our suggestion is that all knowledge is actually 'knowledge by acquaintance' if by this be meant what we have termed immediate knowledge or direct apprehension. But in the case of our 'acquaintance' with, or immediate knowledge of, an implication we come to know, by this very act, something *about* the subject of the conclusion implied. 'Knowledge by acquaintance' and 'knowledge about' are one and the same thing looked at from different points of view.

is no process from premiss to conclusion, but is the immediate apprehension of the implication, we can still admit that the knowing may result upon a process, and that the whole experience might be conceived as 'mediate' in so far as the final knowledge comes about with the help of or *through* the whole process.

But, if we use the term in this sense, we must bear two important facts in mind. Firstly, the actual knowing, the culmination of the process, is still immediate. Secondly, the mediation which occurs is not necessarily inferential. The first point we have already considered, but the second must now engage our attention. If we think of mediation as the process leading to knowledge, then inference is only one instance of such mediation and is not co-extensive with it in meaning. For we term 'mediate' here any process which helps us to know. Thus, for instance, the actual seeing of figures in geometry is a help in the gaining of knowledge. Yet we do not infer our knowledge from what we see. Again, the asking of certain questions and the clear formulation of problems, the gaining of new experiences, the recalling of truths (already learnt) at a certain point in the argument, the removal of prejudices—these may all help to make knowing possible. For, on the one hand, they may clear hindrances out of the mind's path in knowing; on the other, they may so enrich the mind as to enable it to know where it could not know before. In so far as they fulfil these functions, they are all instances of mediation in the broad sense now under consideration. Inference, however, is one particular instance of such mediation. Its distinguishing mark lies in the fact that it involves the apprehension of a necessary implication. Thus the syllogism is mediate knowledge in a double sense. It is mediate knowledge in the first sense in so far as it is indirect knowledge about the subject of a conclusion directly seen to be implied in certain premisses. But it is also mediate knowledge in the second sense. For in it we find premisses set out by thought in such a manner that the mind can immediately perceive their implication, so that the relating of the premisses

in this manner enables the mind to come to know an implication, and, by one and the same knowing act, to know also something about the subject of the conclusion.

But in whichever sense we use the word, in no case is 'mediate knowledge' a distinct kind or type of knowledge standing over against the immediate kind. Its core, we repeat, is always immediate knowledge; in the case of inference, the immediate knowledge of an implication. It may be objected that such a view gives no room for certainty in the conclusion gained mediately. But this criticism could not be justified. What we do assert is that in syllogistic inference—to revert to the instance of the syllogism—we know *directly* the implication alone, if M is P and S is M, then S is P. We do not know that S is P in itself, but only as implied in the premisses. We know it hypothetically, if . . . then . . . We ask too much from the syllogism, as such, when we ask from it a categorical statement in its conclusion, for instance, S is P. All it can tell us with complete certainty is that S is P is necessarily implied in the premisses. If we do gain a knowledge that S is P which is certain in itself, categorically, then we do not gain it merely as the result of the syllogism. We admit that the knowledge of the conclusion in cases where the premisses are known to be true would be beyond doubt, but the conclusion is not certain in itself; it is still certain hypothetically. It is certain because we know, firstly, that the premisses are true; secondly, that the premisses imply precisely this conclusion and no other. We also admit that as the result of syllogizing we may become so familiar and so well acquainted with the character of S that by a direct act of knowing we 'see' beyond all doubt that it must be P. That S is P would then become as completely self-evident to us as is the fact that the premisses imply the conclusion. But we should know that S is P in such a case not syllogistically but by a further act of direct knowing, for categorical knowledge of S that it is P cannot be given syllogistically as such. These, it seems to us, are the facts of the case.

We ought to point out, however, before turning away from

consideration of the syllogism, that usually we ask no more from it than probability. Most often, when we actually use syllogisms in reasoning, our major premiss is a memorized general rule of whose truth or falsehood we are not directly aware. Such, for instance, is the rule, all organisms are mortal, when we have not directly apprehended with apodeictic certainty that mortality pertains essentially and so necessarily to organism as such. We have merely accepted the rule as something generally assumed, and contradicted by nothing in our own experience, or, again, as 'proved' by us inductively. Now, in the syllogism, Man is an organism, an organism is mortal, therefore man is mortal; we make our appeal to this general rule as a major premiss. We do not directly see that mortality appertains to organism (for, in such a case, we should also directly see it to pertain to organism in this one instance of it, namely, man), but we have earlier established to our own satisfaction a general rule, and we now recall it and use it as our major premiss. We know with certainty that just these premisses imply this conclusion. And so, if our experience leads us to think these premisses on the whole sound, we think it safe to affirm the conclusion. Thus, though the syllogism in this, its more usual form, gives no theoretic certainty, none the less it gives probability. It is one method, of many used by mind, for bringing past experience to bear on present problems. When we fail to gain certain knowledge of X directly, we may yet arrive at probability if we can show that X belongs to a group each member of which, we have been led to believe in the past, is conditioned by a certain rule. In such a case, it is well to note, the probability is grounded upon a prior certainty, namely, the certainty that the premisses do imply the conclusion.

Deductive inference, however (of which syllogism is one instance¹), is not the only type of inference, and we must

¹ We believe that our argument in the foregoing pages would hold for all instances of deductive inference, but to attempt a detailed proof in each instance would be too vast an undertaking for the present work.

now turn to consider the other main type. By inductive inference we claim to know general laws not directly but mediately, proceeding from the careful observation of particulars. (There exists, however, one method of coming to know general laws which cannot be described as inductive, though it is traditionally termed 'induction', and in this case we must not be misled by traditional terminology. The so-called Induction by Complete Enumeration, or Perfect Induction, is really non-inferential in character, that is to say, the final knowledge is gained directly. For if I actually see that so-and-so holds individually of each and every member of a class, then no inference obviously is involved in my asserting the universal application of the so-and-so throughout the class.) Where, then, shall we find inductive inference and inductive reasoning proper? Now, in spite of much disagreement amongst logicians as to the exact character of induction, there is general agreement as to the existence of a definite type of reasoning which is essentially inductive, and we propose to examine this reasoning briefly. The whole inductive process presents a two-fold character. The reasoning in it is carried on about certain alternatives *already* suggested to the mind by its observations. The first task in induction, therefore, is to set forth the alternatives. These are hypotheses, possible general laws to account for the facts of experience.¹ For instance, we note that frequently two facts come in conjunction, and this suggests to us their constant conjunction as a general empirical law. Or, again, we find one fact always preceded by another in such a way as to suggest that the first is the immediate cause of the second. In sound induction, of course, this work of making hypotheses is no mere guess-work. The hypotheses need to be well-founded. Incidentally, it is important to observe in this respect that in making the hypotheses we are guided not only by our present experience, but by much past experience relevant to the matter under consideration, as also by fundamental laws or principles of thinking (both the particular

¹ We shall consider later in this section the meaning of the term 'a fact of experience'.

axioms of our particular science and the still more fundamental and pervasive Laws of Thought).

Now observation of the facts usually suggests more than one possible general law, and we have to determine which law, amongst all the possible ones, actually holds in this case. This further task is carried out by a reasoning which is essentially inductive. It consists in eliminating hypothesis after hypothesis by the discovery of negative instances. Thus, if we make the hypothesis that X is the cause of Y, and discover an instance in which Y occurs in the absence of X, or fails to occur in the presence of X, then we can be certain that this one instance is sufficient to overthrow the hypothesis. In this manner hypothesis after hypothesis can be shown to be unsatisfactory, until, finally, one alone remains which still satisfies the facts. And since the facts must obey some law or other, we now conclude that the one remaining hypothesis is sound and states the general law. In other words, if the facts disprove every alternative except one, that alternative must be the right one, and we are justified in placing our faith in it. Such seems to be the core of the reasoning which is inductive. It has rightly been pointed out also that, even though we fail to reduce the number of hypotheses to one, something has been gained if we reduce them at all. Though still left with two alternatives, or even three, we are in a sounder position than when confronted with five or six. And if our partial reduction is carried out by the method of elimination, the argument remains definitely inductive.¹

Here, therefore, is a further instance of mediate knowledge, and we have to ask of it the same question as was asked of the previous instance—deductive inference. Is mediate knowledge here something completely distinct from immediate? Now in

¹ We have not considered here the methods of analogy and incomplete enumeration which are usually classed with induction. In the former case, at least, it is exceedingly doubtful whether the argument can ever be based on any eliminative process as can the main type of inductive argument. These methods, however, have no great epistemological importance, and we need not consider them here.

this case, again, we believe that a negative answer is the only possible one once we consider the position fairly. For if we consider inductive reasoning carefully enough, we must come to see that its essence or core is again the immediate apprehension of an implication as something which is true in itself. We have satisfied ourselves that of certain laws suggested by the facts of experience, X alone holds throughout experience. (All other suggested laws have been contradicted by experience.) Now we know that some law or other does hold of experience. It is then obvious that X is the law which is valid for experience in this case. We see the implication directly. Our conclusion that X is the law is, however, gained inferentially. The law, in so far as it is established inductively, is not self-evident. But the above implication *is* self-evident, and it is the implication that we directly perceive or apprehend. In knowing the implication with certainty, however, we gain the assurance that X is the law which holds *if* our premisses are valid. In this sense our knowledge of the law is mediate. It is also mediate, we should add, in the second and broader sense. The whole process which is induction is, in part, a preparation for further knowledge, and the knowledge which finally occurs presupposes this preparation. The direct knowledge of the implication, which, viewed from another angle, is indirect knowledge as to the validity of the law, can only occur, for instance, as a consequence of the right use of much we already know or opine. In reasoning inductively, for instance, we take it for granted that the world is uniformly ordered and not chaotic in its character, that it is intelligible; and we make use of this information. (To deny this, of course, would be to take away the very foundation of inductive reasoning. For, as we have shown, it is an argument carried out on the understanding that *some* law does hold for these facts under observation, even if we cannot now exactly determine what law, and that if we succeed in setting forth all the possible alternatives, then one of them must be the law which really does hold.) Moreover, we have to search for hypotheses and eliminate those which are unsound, and this in turn is a task which

presupposes the right use of much further information if these hypotheses are to be anything more than wild guesses. We shall presently return to the question of the part played by experience in suggesting such alternatives. But the final conclusion, it is obvious, is reached *through* the use we make in a process of discursive reasoning of much prior knowledge, and is mediate, therefore, in this second sense of mediation.

When we turn to consider the measure of certainty possessed by the conclusion of such an inductive process, we realize that induction, though it may give us practical assurance, can hardly provide theoretical certainty. We can never be wholly certain of our premisses. If our imagination were keener and more acute, experience might suggest to us still further alternatives than those considered by us, and if we searched far enough we might find a negative instance that would destroy even this hypothesis which we now accept as the true law. To derive a principle or law by inductive reasoning is most emphatically not to know it with certainty.¹ And yet, we may note in passing, general laws established in this manner constitute the large proportion of major premisses in syllogistic reasoning. But inductive reasoning, of itself, does not culminate in the certain knowledge of a general law. For the most part, it enables us to make a judgement whose truth is probable. None the less, it may conceivably suggest a connection whose necessity we may come to see directly. It may fulfil the function of a propædæutic to a future knowledge that shall be completely certain even though it fail itself to give that knowledge. In such a case, we should know only in so far as we directly apprehend the necessary connection, but in suggesting this

¹ It is, of course, theoretically conceivable that we should have, first, discovered every possible alternative, secondly, known that we had discovered all the alternatives, and, thirdly, shown all except one to be false. In this case we should have attained certainty, *if* the premisses were sound. Our assurance would still be of the hypothetical kind which pertains to whatever is known as implied. But *actually* inductive reasoning never gives certainty, since we can never be certain that every alternative has been considered nor that every negative instance has been brought forward.

particular law and emphasizing its probable truth the induction would have helped materially. And even when induction fails to lead to such an act of direct apprehension, as is usually the case, its value still remains great. For, guided by 'experience' and past knowledge, it frequently gives probability of a very high order, and such probability is in itself extremely valuable; while, on the practical side, we continually act as if induction gave us not probability but certainty, and find the action, for the most part, successful.

If we now reconsider the whole argument up to the present point, we see that the phrase 'mediate knowledge' is used to convey two distinguishable meanings. In the first place, it means indirect knowing—that is to say, coming to know something indirectly about the subject of the conclusion in seeing an implication directly. The latter is all the knowledge actually present. Simply as the result of our thinking, we do not know more of the conclusion than that we see it to be directly implied by the premisses. (Later, of course, by a further act of knowing, we may come to see directly the relation set forth in the conclusion.) There exists no indirect knowledge as something distinct and separate from direct knowledge. We cannot find any evidence of two distinct types of knowledge, the one direct and the other indirect, in this sense. Mediate knowledge *qua* indirect is simply the direct knowledge of an implication looked at from the point of view of the information given about the implied. But, in the second place, the phrase 'mediate knowledge' also denotes a whole thought-process, together with the knowing that culminates it. Certain thought-processes possess just this characteristic that they culminate either in a direct apprehension or in an opining, and without the thought-process the apprehending or opining could not occur. (It is worth remembering, also, that a thought-process of this kind may frequently lead neither to knowledge nor to opinion, but to a state of suspended judgement.) Now the whole discursive-process, including its culmination, is an instance of mediate knowledge. If we think merely of the direct apprehension, however, in which the process may

culminate, we had best repeat that it itself is not a process. It is direct insight that comes like a flash after thinking about a matter, and so brings the thought-process to an end. Even in mediate knowledge it itself is immediate.

We cannot, however, leave the matter of mediation thus, for though our main interest lies with the actual knowing—and we have already shown what form it takes in inference—yet a further question which arises in this connection must be faced. How can a process of discursive reasoning ever help us to know? To this question we should answer: Discursive reasoning facilitates the task of the knowing mind by presenting it, as the result of its thinking, with a world which is more systematic, more coherent, and within which a greater number of relations are already known. It can do this, we add, because it uses past knowledge and past opinions, and conceives its world accordingly. Now progress in knowledge is easier when dealing with the more ordered conceptual world than when dealing, for instance, with the sensory world. New relations are more easily apprehended. And often all advance becomes impossible until some further systematization is made.

But, it will immediately be objected, the conceptual world is arbitrary, artificial, and unreal, the outcome of a falsifying abstraction. Therefore, conceiving can help us to know only in so far as the object we desire to know is unreal. It plainly cannot help us to know the real, for it hides that real from us. We, of course, do not agree. Conceiving helps to make greater knowledge of the real world—the only knowledge we recognize—possible. To understand how this comes about, we must first recall the argument of the previous chapter. The assumption underlying the above objection is that the real world is the sensory world, that the particulars of sense are the real things which exist, and that when we abstract in conceiving we are turning our backs upon the real world. But this assumption is totally false, and our theories as to the nature of conceiving, once the above assumption is made, cannot but be unsatisfactory in the extreme. For, if we once suppose that the only outlet to the real world is sensation, then clearly

knowledge of that real for us must mean knowledge of this particular colour, this particular sound and taste. Anything else is phantasy. How far a *perceived* 'object' (not sensed as such) could be real would remain a difficult problem. But certainly a concept or general idea would only be possible as an arbitrary creation which itself could never be used to gain further knowledge. At best, it could only act as an economy, a 'shorthand-note'. For whatever we chose to do with our intellectual faculties, the real would always be known in sensation; and we could never 'abstract' from the sensory content without definitely moving away from the real; the image would have to be conceived as a weak or 'decayed' sensation; while the concept would be one stage further removed from reality. But when once we understand the true position, namely, that the content of sense is not itself the 'stuff' of the physically real, we can then, at least, claim the right to abstract from its recurring manifold and to disregard certain details without necessarily suffering any loss in knowledge of the objective reality. Once, then, we free our minds from false assumptions, there is nothing impossible in the suggestion that conceiving *may* help us to know the real. Some advance must be made on the sensible world. If we rest content with a world of sensible objects, which we too readily assume to be the real world, we shall gain no knowledge. The first lesson we have to learn is that things do not possess just these sensory qualities which we ascribe to them in the sensory experience. The sensible world, which we naïvely claim to be physically real, is the outcome of our fundamentally false assumption that sensing is knowing with the consequent ascription of sensory qualities to that real. And we must first realize the possible falsity of this ascription before we can hope to understand how reasoning and reflection can enable us to gain, at least, probable truth about the world around us, and how they may lead to certainty. In spite of its conceptual character, the world conceived by the scientist may be more real (as, indeed, we usually believe) than is the sensory world of every-day.

The above objection, therefore, cannot stand. That is to say, it cannot stand if we interpret it to mean that conceiving is no help in knowing the real because it (conceiving) itself is a turning away from the real revealed in sensory experience. None the less, we must admit that it has a certain force from another point of view. The objection may only mean that the conceptual world is in itself unreal (whatever the sensible world be), and so conceiving it cannot possibly help us to know the real. Here the objector would, at first, appear to stand on firmer ground. For it is hardly possible to deny that the conceived world about which we *think* is in part the creation of our own minds. In its totality it is not completely identical with the real world which we are coming to *know* through its aid. For instance, the man of science would be ready to admit that the world he presents to us was not wholly *discovered* by him. Quite explicitly, some of it is the fruit of his own imagination. But this admission cannot rightly be taken to prove the thesis that conceiving is of no help in knowing. For though conceiving is in part a creating, and though there is something arbitrary and artificial in it, we may yet claim for it that it makes more frequent advance in knowledge possible. This advance becomes possible because in conceiving we abstract. We can (and do) select those elements in experience reflection upon which is most likely to lead to further knowledge. Now the elements we do select are invariably recurrent features. Through experience we become aware of certain common features—features which repeat themselves on more than one occasion, and we frame our concepts according to these features. The existence of these common features is obviously important, since in reasoning we seek to link together and to systematize in the hope of coming to apprehend new links. But the completely unique would resist all our efforts at relating it with anything else. Therefore, we disregard what is unique in our sensory experience. We disregard the particular time of the sensation which can never be repeated. We disregard the unique set of circumstances in which the sensory experience occurred, but we

fasten upon a feature, which this particular has in common with many others, and so link this particular up with other particulars, conceiving the type.

But how does experience (by which we mean sensory experience) 'give' us the recurrent feature? It would not give it if the sensory experience were merely a seeing of a colour, hearing of a sound, and so on. But the seeing of colours, as we have throughout insisted, is itself an occasion for knowledge. When we see a patch of red, we spontaneously know existence. In seeing the colours, which are now before me, I know the difference between one and many. Moreover, I can pick out two that are like, and relate them as being like in colour. Now I do not *see* this likeness. I see the colours, but *know* the likeness. And it is our power of apprehending likenesses in colour which alone enables us to conceive redness, blueness, and so on. It is not that all reds are identical in shade. It is questionable whether any two instances of red are even completely identical. Indeed, we conceive redness by arbitrarily taking one particular shade of red, not too dark and not too light, and making it stand for all others. (This is one instance of the 'doing' present in conceiving.) Yet we are only able to do this because we have apprehended a likeness and a similarity between different reds. The concept could not be made without the prior knowledge. It is based upon it. Sometimes, again, we come to know in experience not the approximate recurrence of a colour, but the more exact recurrence of a relation between colours—for instance, a sequence. To take a simple case: In carrying out an experiment I see two colours, blue and red. I notice in carrying out many such experiments that the red *always* follows on the blue (this is a 'fact' of my experience), and I conceive the event as a sequence of blue-red.¹ Now what happens here, speaking precisely, is this. I see the colours. I know the sequence, red following on

¹ To avoid, for the present, difficulties about memory, we may think of many experiments being carried out simultaneously before our eyes, so that we can see and compare them all at one and the same time.

blue. Finally, I know that this sequence is repeated on each occasion. The last two items are definitely instances of knowledge. That is to say, the feature apprehended as recurring was itself, in the first instance, known rather than seen, a known relation between colours. And it is not impossible by further abstraction to conceive the relation alone—here sequence—and to reflect upon it. But whether our concept be of this extremely abstract kind or not, the point we wish to make is that in forming it we are guided by knowledge already gained in sensory experience. Even though conceiving is, in part, creation, we neither create *ex nihilo* nor capriciously. The conceived world embodies in itself knowledge already gained, and the new ordering in conception proceeds according to what we know. Thus the more systematic character of the world conceived, for instance, by the botanist—more systematic, that is to say, as compared with our own everyday non-scientific view of the plant world—is ultimately based on his capacity to know real likenesses and is the consequence of his abstraction and selection according to this knowledge. All conceiving is ultimately based upon our knowledge of real features of that real world which we first know in sense-experience.

We now begin to understand the rôle of experience in knowledge, and how discursive reasoning, through which this first minimum of knowledge becomes enlarged, most certainly presupposes it. Discursive reasoning is conceptual in character; but conceiving can only occur on the basis of what we already know in experience. Conceiving is the outcome of abstracting certain real features known in experience in order to consider them alone and in order to pay greater attention to them. These features are also known to be common or universal throughout a particular group. Discursive reasoning is a further systematizing of these concepts according to what we know or opine. As such, it facilitates the task of the knowing mind, because the more closely knit, the more inter-related and connected, the world we think about, the more likely are we to see the necessity of new relations, or to opine that such-

and-such a relation probably holds of the real. And this conceived world, just as it is more systematic, is also more real than the sensory world, because in conceiving it we take up the knowledge already contained in the experiencing of that sensory world and increase it in our apprehension of new relations and of greater system. Thus the world conceived by the scientist, though not wholly real, is yet both more systematic in its character and better grounded than is the sensory world of the unreflective person. In other words, when reasoning conceptually, the conditions are more favourable for the occurrence of knowledge. Here lies the real utility of discursive reasoning from a cognitive point of view. It increases the possibility of further discovery. As such it has a side which is a doing. We readily recognize this. In inference, for instance, we must seek for, and bring together, the right premisses.¹ Also the terms of the premisses are conceptual, and in thinking any concept we must bring many particulars under one head through knowing the recurrence of some feature. This bringing together, as such, is in both cases a doing. Yet it is a doing which proceeds strictly according to, and is justified by, a knowing (or an opining) of something in common between the particulars, and of something which can link the two premisses. And when this doing, so intimately bound up with knowing, has occurred, we may find ourselves in a position to gain greater knowledge, as when we are enabled to see directly that the premisses of an argument imply a further conclusion.

And, perhaps, the true meaning of the second type of 'mediation' considered by us in this section may now be more easily understood. It is mediation in this sense, that where we at first fail to know a truth, we may, as the result of discursive reasoning (or thinking), arrive at a position in which we can know it directly. Reasoning or thinking, from this point of view, in its systematizing and ordering, its

¹ This frequently involves the adoption of 'a trial and error' method of procedure.

classifying and relating, is simply our effort to work ourselves into a position in which further knowledge can be gained. It is our effort so to enrich the mind or the intellect by a wise use of experience, of prior knowledge and opinion, that the mind is enabled to apprehend new truths. As such it is the process which makes the further knowledge possible. And mediate *knowledge* is this whole process completed in its culminating act—the act of direct knowing. In other words, mediate knowing in this sense of it is in essence the apprehension of a further truth through the *use* we succeed in making of past knowledge and of the whole experiences in which such knowledge occurred. Mediation is the process of using the knowledge and opinions we already possess in a certain definite manner, doing something with them, so as to gain still greater knowledge of the real, which new knowledge in its turn may be used again in the same manner. This is the true dialectic of knowledge. The final knowing, however (if knowing occurs), is not a doing, nor a process; in each case it is the immediate apprehension made possible by the process.

With these statements in mind, we are better able to determine the measure of truth which pertains to the economic theory of the concept considered in the last section. The concept, we can now agree, is, from one point of view, 'made for use'. But the use to which it is put is not the control of nature, as the theory supposes. It is only useful because conceptual reflection facilitates knowing, leads to further knowledge. Its usefulness belongs primarily to the theoretical, rather than to the practical sphere; although, admittedly, the greater knowledge which it brings in its train may lead in turn to a greater control over nature. But conceiving is more immediately useful in so far as it helps to make possible further knowledge. And conceiving *is* useful in this sense, we argue, just because it is not merely a doing, but embodies within itself and applies to the present much past knowledge.

It is necessary, however, to repeat that our discursive reasoning leads us most often not to certainty but to probability. Occasionally, we are able directly to apprehend the

truth as the outcome of the thought-process. But, usually, we do not enjoy such good fortune. The assertion of a probability is as far as we can get. But may it not be argued that the gaining of such a probability is itself a step forward in the process which brings us nearer the direct apprehension of the truth? For the probable cannot be an end in itself. We cannot rest satisfied with it. Nor does our search end when we have attained it. It is true that in our practical life we only desire an effective control over nature, and if an estimation of the most probable gave us the desired control we should be satisfied with it. But it does not do so. Even in the practical sphere we need certainty; probability is only a makeshift. The doubt and uncertainty which are present in opining breed hesitation and awkwardness in action. And on the theoretical side it is obvious that the end of our inquiry must be the attainment of certainty. Now, from this larger point of view, we may look upon any mediate process culminating in the attainment of the probable as itself a part of a larger process whose natural culmination would be complete certainty. In terming this larger process 'mediate' we might be stretching the word beyond its ordinary usage. But it would certainly be a mediate process in this sense, that through it an end would be attained, namely, certainty. Viewed thus, the attaining of probability would be part of a vast mediate process towards full and complete knowledge of the real.

We may conclude the present section and chapter by summing up the results of our inquiry as to the nature of mediate knowledge. We have seen that the evidence available does not justify the assumption of two completely distinct *kinds* of knowing, the one immediate, the other mediate. We have ample evidence of the existence of immediate knowledge; we have none of the existence of a mediate knowledge distinct from it and opposed to it in character. It is not denied that X may be known indirectly or mediately. But this knowledge, on examination, reduces itself to a knowing directly that X is implied by certain premisses. The actual knowing present is direct, in spite of the fact that we talk loosely of knowing

X indirectly. If we choose to maintain the term 'indirect knowledge' as meaning the (direct) knowledge of an implication considered not so much in itself but according as it gives information about the implied, then no harm is done.

The issue is complicated, however, by another fact. Knowing, frequently, cannot occur without a certain preparation in thought, which involves a right use of much past knowledge. First, certain conditions have to be satisfied. The act of knowing (or opining) presupposes a thought-process, frequently prolonged and intricate. This process also is rightly termed 'mediate', for through it we know, and without it we should not know; and there can, again, be no objection to this usage of the term, so long as it is understood that the knowing is the final act, the culmination of the process, but not the process itself. Search where we will, we cannot find any fair instance of a knowing which is a process. And until we find such an instance we cannot admit that it ever exists.¹

There remains one final question. Can we claim to have discovered in discursive reasoning that perfect example for which we seek, that experience which is through and through knowing? Quite clearly we cannot. Knowing is invariably present in discursive reasoning, but does not exhaust its nature. In particular, that flash of illumination which occasionally brings the reasoning process to an end is certainly knowing. But it is never the whole of the experience. To consider it in itself, we have to abstract. None the less, we can claim to have learnt much in this chapter as to the nature of knowing, and as to the manner in which and the occasion upon which it functions within us. Mediate knowledge, we learn, is not completely and wholly different from immediate knowledge. On the contrary, the evidence seems to point to the fact that knowing is one in nature throughout. Throughout it is the immediate apprehension of the real. Differences between kinds

¹ In denying the position that knowing is a process we have, of course, in mind a *logical* process. From a purely psychological point of view knowing must be a temporal process, however short that process be. It takes up time.

of knowing are really differences in the types of process which enable us to know, which liberate our capacity for knowledge. These differences form the subject-matter of logic. But the epistemologist and the metaphysician must concern themselves with the act of knowing itself, and must consider the difficult problem presented by the fact of knowledge. Whence comes this wonderful power, none the less wonderful in that it is meagre and limited in human minds? How can we explain knowing? And what must be the nature of reality if within it there is a knowing mind? These questions, we believe, are as vital for philosophy to-day as they ever have been, and cannot be disregarded. In this essay, however, we mean to confine ourselves to description, and shall not attempt any explanatory answers. In a last chapter we shall try, by broadening our outlook, to complete this purely descriptive work.

INTUITIVE APPREHENSION

THE argument of the earlier chapters points to the following position: the knowing act always remains identical in character however much the circumstances in which the knowing occurs may vary. Throughout, it is an immediate apprehension of the real. But is this position sound? Is the knowing act one and the same throughout? For even though we may now be prepared to accept the position with regard to the knowing present in the sensory experience and in discursive reasoning we may yet wish to make a reservation with regard to certain experiences which are abnormal but yet definitely cognitive. It is frequently assumed implicitly, and sometimes explicitly claimed, that there exist types of cognitive experience in which the actual knowing differs completely from, and definitely transcends, the knowing present in the sensory experience and in discursive reasoning, the ordinary knowledge of everyday. Clearly, if such types do exist, the above position cannot be sound. The knowing act cannot be one and the same throughout. The inquirer into the nature of knowing must therefore face this difficulty. And in the first section of the present chapter we propose briefly to consider some experiences which have been put forward as instances of 'transcendent' knowledge. The term 'intuition' is sometimes used in this connection and in the second section we shall proceed to consider this term, and to give an account of the 'intuition' whose existence we feel it essential to posit in describing knowledge.

I

'Transcendent' Knowledge

Pure knowledge, it may be urged, is enjoyed by few mortals. The realm of the mundane, where men grope about in darkness, can provide us with no instance of pure knowing. For, as it is in its purity, knowing does not belong to the everyday life of man; on the contrary, it is something 'other-worldly' and

inspired, something foreign to man's natural estate. It may best be described as an intuiting. It is the vision of the poet, the illumination of the artist, the contemplation of the mystic, and the faith of the saint. It is knowledge of reality, not through slow and laborious processes of intellectual activity, but through an immediate and complete apprehension of what most truly is. Such knowledge does not belong to the common mass of men: genius alone enjoys it. The gap between it and those instances of knowledge which have thus far engaged our attention is as wide as that between the infinite and the finite, the perfect and the imperfect.

This is the extreme form of a view which is hardly ever held by philosophers, but which is frequently found elsewhere. Ordinarily we do believe that the genius has his own way of knowing and that his way is not ours. Now in seeking to examine this belief we meet, at the outset, with a very serious difficulty. To discuss the character of the 'transcendent' knowledge and to compare it with the rest of human knowledge we need first to have experienced it ourselves. Otherwise, we shall be discussing that of which we are ignorant. And if, in our ignorance, we make any assertions whatever as to the nature of such pure knowledge, the truly inspired person may speedily turn upon us and hold that our assertions are unsound and our account thoroughly false. Certainly, it is but natural that the vision of the greatest minds cannot be transmitted in its entirety to lesser minds. This is not because the vision is a mere subjective experience that cannot be shared; nor because such men make any effort to keep the vision to themselves; but simply because other minds are not great enough to partake fully of that which the inspired person has to give. It is the mark of true genius that as one increases in appreciation of its productions and enters further into the mind of the artist, or the mystic, so one finds still greater depths unplumbed and new truths left undiscovered. And if such inspired men tell us that the insight they possess is something very different from discursive reasoning—even at its best—we have no right to disbelieve them. If the seer is convinced that the Spirit of Posey

or of Painting has breathed upon him, or that he has been illumined by the Contemplation of the Light, or has himself taken part in the mystic dance around the Throne of God, trying thereby to express to us by metaphor what is otherwise wholly inexpressible in our everyday language, we must simply take it for granted that something has happened to him which does not happen to us. For this reason, what we have to suggest in this connection and throughout this section is very definitely tentative and uncertain in character, and we make no pretence either to a complete thoroughness or to an authoritative finality.

We thus readily recognize that the vision of genius is far removed from the knowledge of every-day. We are anxious not to belittle the difference between them, for to do so would be to miss the real problem altogether. None the less, we cannot but feel that the view as set out above goes to too great extremes. A mysterious difference in kind is posited where there may after all be nothing but a difference in content known. Truly, the ordinary mortal cannot fully share in the inspiration of genius. But this fact in no way necessitates the belief that such inspired knowledge is totally distinct in kind from everyday knowledge. It may, of course, be so; yet it equally well may not. For it is surely illogical in the extreme to argue that since I know nothing of an experience it must be totally different in structure and kind from those experiences with which I am already familiar. Yet this seems to be the drift of the argument. Of this thing I know nothing; therefore, it must be completely and mysteriously different in its nature from everything I do know. But to think so is to think fallaciously. The unknown need be no more mysterious than the known. And in this case, we suggest the difference may be merely one of content. Does it not seem that the real ground for the distinction between 'every-day' and 'transcendent' knowledge lies in the difference in nature between the object known in the two cases? It is, primarily, the fact that poet, saint, and mystic claim to 'draw down heaven', whilst the ordinary man in his ordinary mood does not lift his eyes above the world around him, that leads us to allot the term 'heavenly' to the knowledge of the former and

'earthly' to that of the latter. And it may yet prove that changes in content, the *what* known, need not involve a change in the *knowing*. One and the same power of apprehension may be capable of knowing both 'earthly' and 'heavenly'. In such a case, though what he knows is so very different, the actual knowing of the most inspired poet may be identical in nature with my own.

But surely, it may be objected, that which knows the finite cannot also know the infinite? Yet this, perhaps, is what the objector too readily assumes. At least, he should first prove his thesis. For it is not inconceivable that the mundane and the transcendent, the extraneously conditioned and the absolute, the finite and the infinite may, in spite of all their difference, be apprehended by acts of apprehension identical in nature. The 'inspired' person certainly deals with quite a different objective world, and no doubt quite a different set of circumstances may be necessary to enable him to know, yet it is not absolutely necessary that his knowing, as such, should differ in ultimate nature from the knowing act involved in everyday knowledge.

At the same time, admittedly, it is only too evident that if certain theories with regard to the nature and status of human knowledge were sound, the mind that knew the finite could certainly never succeed in knowing the infinite. As an instance one might take the theory which confines human knowledge strictly within the limits of the phenomenal and holds that valid knowledge is only possible for the human mind in so far as the mind itself sets out the principles which the world it knows obeys. It would then be clear that the transcendent could never be known by such a mind. To know the transcendent it would need a capacity and power wholly different in nature from that which functioned when it gained knowledge of the phenomenal world. Thus it would be necessary to assert the existence of two completely distinct kinds of knowledge; the one knowing the phenomenal, the other the transcendent or ultimately real; the one, in part at least, a creation of its object, so that the object depends upon it for its very existence,

the other a discovery of an independent object. But such a dualistic interpretation of knowledge is in no way necessary, we contend, if the description given in these pages is the true one. For we do not believe that human knowledge is ever of the phenomenal. No such distinction as that between the phenomenal and the real needs to be introduced, on our view. Knowledge, if it occurs at all—whether it be at a high or a low stage of mental development—is of the real. It is true that the mind conceives a world in imagination to aid it in its knowing; and certain of its principles are in reality only well-founded hypotheses; but it does not then *know* the conceptual, it knows the real with its aid.¹ Wherever knowledge occurs, the object is the real. And, we add, the knowing act which enables us to know the real at the finite level may also quite conceivably know the real that lies beyond it.

• If we now take stock of our position, we can affirm, on the one hand, that the supreme knowledge of the 'inspired' person need not be totally different in kind from the knowledge of every-day, even though its content differs exceedingly; and on the other, that the account of knowledge given in the earlier chapters of this essay may, in its general outlines, quite conceivably apply even to the 'transcendent' knowledge discussed in this section. We may, therefore, ask whether, as a matter of

¹ The only occasion upon which the mind can be said to know the conceptual is in self-consciousness. The mind turns back upon itself and observes its own conceptualizing. This is knowledge—again of the real, but of a real which is subjective rather than objective. Incidentally, we may add, the argument of the previous pages also holds with respect to the subject's knowledge of itself. It is admittedly difficult to understand and to describe this knowledge. In particular, the fact that the subject known can never be an object of knowledge, since as such it would not be subject, seems to make the task of describing self-consciousness additionally difficult. But surely these facts do not make necessary the conclusion that the act of knowing involved in consciousness of the self is completely different from the act of knowing involved in all other cognitive experiences. And yet this belief is frequently found. We suggest that it is at least conceivable, and, as far as we can see, probable, that our actual knowing of the subject is identical in character with that of the object.

fact, 'inspired' knowledge is of the same kind as the knowledge of every-day, and whether the account given of the latter does not hold equally well of the former?

We propose to suggest that an affirmative answer ought to be returned here, that just as it is with everyday knowledge so with the knowledge of genius, first, there is an effort of some sort to enable him to know, and the knowledge itself which follows is an immediate apprehension of the real. For our information we have to rely largely upon that which the knower chooses to tell us and he, most frequently, is not very communicative on this point. Usually his mind is so full of the vision he has seen, and he is so anxious to share it with others, or at least to express it adequately, that he has very little time to spare in which to describe the manner of his coming to knowledge. For instance, it is but rarely that one finds a poet discussing the exact nature of his insight. That is none of his business. He will be ready enough and anxious to present his reader with the truth he has discovered. He has learnt of life, and what he has learnt has so elevated his thoughts that he cannot contain his emotion but must express it, using in the expression the language natural to great emotional stress, namely, rhythm. But he does not reveal so readily his spiritual history from the point of view of his knowing. He has much to say of life, but very little of how he learnt all he now knows about life.

The problem is further complicated by the fact that many poets from time to time have held a theory as to the nature of poetry which differs essentially from the one implied in the above paragraph. The poet, they would say, does not, as a matter of fact, seek for truths at all. If he does so, then he is no longer a poet, but a philosopher or a scientist. The poet, as poet, is an artist and, like every other artist, his work is to amuse and to interest by doing something well—though, of course, the amusement need not be frivolous in character. It is not his duty to seek new truths about life. His task is to create Beauty and not to discover Truth. There are thus (at least) two types of poets: the one strives to know and to reveal the inward truth of life and holds this to be the proper business

of the poet, the other is content to amuse by using words in an exquisite manner. The latter type does not seek to know. The ordinary knowledge of every-day is sufficient for his purposes. His aim is to set it forth in a way that will please. His real interest is in technique and not in content.¹

Fortunately, it is not necessary for us in this work to settle the issue as between the two schools. Our interest lies clearly in that type of poet for whom art involves, in part at least, the gaining of new knowledge. For the purposes of this argument, therefore, we may disregard the poet who is interested in technique and form alone. And of the other we shall ask, Is his knowledge different in kind from the knowledge of the scientist—to take our best instance of ‘everyday knowledge’? How does the knowledge of the one compare with that of the other?

By way of answer, we may at least point out certain details which appear to be analogous in the two cases. Both seek truth and both find hindrances in their path. We have already shown how a scientist finds it necessary to work mediately by way of discursive reasoning. It is by such laborious processes alone that his immediate apprehension of new truth becomes possible. So, too, the poet must struggle and strive if he is to gain a more comprehensive insight into the real. It is no easy, effortless acquisition. Biographies of this more romantic type of poet have constantly to mention severe and often bitter mental conflicts, from which relief is found in the actual composition, the expression in verse, when it becomes possible. Mental struggles of this kind with the passionate emotional outbursts that accompany them seem to be the inevitable counterpart of the more romantic poetic inspiration. Their source is a failure to ‘gain the vision’. Truth does not flash upon the poet’s mind spontaneously whenever he desires to understand. Poet and scientist are alike both in seeking for truth and in finding it only after much effort.

They proceed to overthrow the obstacles in their path, however, in a different manner. The scientist proceeds logically.

¹ The difference here is, perhaps, exaggerated in order to make it clear.

He reasons discursively, from one relation to another according to the Laws of Thought. He 'perceives' various implications and uses his knowledge to systematize his world as completely and as coherently as he possibly can. Consideration of this more systematic world enables him to apprehend new truths which in turn lead on to others. Now though the workings of the poet's mind remain largely a mystery, it is quite evident that he does not proceed in this manner. He does not stand aside to argue from one abstraction to another. Instead, he enters into the centre of the flood and seeks to live out as complete a life as is humanly possible. In imagination, at least, he will taste of all things, and as he tastes and lives he learns. Thus, a more or less permanent conflict within the one mind between two strands of temperament, between, for instance, an austere asceticism and an indulgent laxity, may of itself lead to many experiences which result in greater insight into the real. Out of the conflict, as a flash, a new truth about the life he lives comes to him, and it is this truth, now apprehended by him for the first time, which he expresses in his poem, finding relief in the expression. Thus it is the living out of life either actually or in imagination which provides the medium through which the poet attains his knowledge. It is not by processes of discursive thought carried forward in a strictly logical fashion that he usually overcomes the hindrances. It is as if the power that he possesses of knowing lies captive within him until he experiences in his own tense fashion the pleasures, the joys, the sorrows, and the griefs of life, its strain and its conflicts. To know he must first live intensely and imaginatively. This vivid imaginative experience seems to be the poet's mediation whereby he attains the end he has in view, namely, a fuller understanding of life.¹

But does the poet really know? Or does he merely delude

¹ Incidentally, imagination is also an essential feature of scientific thinking, as we have shown. But, in science imagination is the hand-maiden of logic; in poetry, imagination as a means to an end, namely, the attainment of knowledge, is supreme. (I am, of course, thinking of the romantic type of poetry only.)

himself in thinking so? To this question we can provide no definite answer, and that for reasons already touched upon. When it is asked, Did this thinker gain greater knowledge of the real through this particular piece of discursive reasoning? I can often answer, yes, or no. For, starting with the same premisses and carrying out the same process of reasoning, I myself come or do not come to the same conclusion. That a process of reasoning implies such and such a conclusion is something neither true nor false for me until I have 'seen' its truth (or falsity) for myself. But it is, to say the least, extremely difficult for the ordinary man to capture the poet's experiences in order to verify his conclusions. Yet until he does so he can neither confirm nor reject that which the poet claims to be true. Of course, the information may be such that it can also be gained through a process of discursive reasoning, and in this case I could verify the poet's assertions without entering into his experiences. But when this is not possible I am powerless to pass judgement.

But the matter goes deeper. If it be ever true that the poet does arrive at knowledge independently (either wholly or in part) of logical processes of discursive reasoning, this would mean that the real may on occasion be known by a method that—for want of a better name—we shall call 'non-logical'. In such a case, knowledge of the real would not be the monopoly of scientific thought nor even of the discursive process. Logical reasoning¹ would not always be necessary for knowledge. Is such a view sound or false? Is a logically disciplined process of reasoning essential for the occurrence of knowledge? Or has the poet his own method of attaining to truth? The evidence points to the truth of the latter alternative, but one cannot commit oneself until much further consideration has been given to the matter. The whole problem is obviously one of extreme importance.²

¹ We do not say Reason, which may mean something very different, namely, that which we here refer to as the 'knowing act'.

² Our knowledge of the principles presupposed in reasoning is an excellent instance of knowledge gained prior (logically) to all processes

But though we cannot answer definitely, our account of knowing would not be proved invalid if the above view were sound. In particular, we could still assert the identity of the knowing act itself throughout all cognitive experiences. For in any process of discursive reasoning, as we have described it, the knowing act is a distinguishable feature within the whole of the experience. It is not the whole of it. And the fact that the poetic experience *qua* cognitive differed from discursive reasoning would not necessitate the existence of two completely distinct acts of knowing. The knowing act itself might be identical in character within both experiences although the circumstances necessary for knowledge in each case differed completely. This would suffice to make them radically different, and we do not wish to minimize that difference. But in such a case the difference would lie not so much in the knowing itself, as it actually occurred, but in the prior efforts, whereby the mind succeeded in working itself into a favourable position for knowledge. To conclude, then, whether we speak of poet or scientist, we can say that each possesses power to know, but that this power lies in bondage and needs to be freed before the act of knowing can occur. The freeing takes different forms, the objects known may also differ exceedingly, but the knowing act, that flash of illumination, when it occurs, seems to be identical in both cases, and there is nothing in our general account of knowledge up to the present which makes it impossible or even difficult for us to believe this.

We are now in a position to give some sort of answer—however hesitating—to the question with which we began this section. Is there a ‘transcendent’ knowledge wholly distinct from the everyday knowledge of ordinary life? We answer that, confining our remarks to poetry, the knowledge which the poet claims to gain differs in objective content from the knowledge of every-day; that, furthermore, it also differs on the subjective

of reasoning. So that it would be patently false to assert that *all* human knowing occurs as the result of discursive reasoning. The present question, however, is: Has the poet discovered *a method of procedure*, which is non-logical and yet leads to knowledge?

side, since in the poet's experience the power to know which he possesses is liberated and given freedom to operate in a manner that is, perhaps, uniquely his; but that the knowing act itself thus liberated does not, so far as we can see, differ in the two cases. The 'heavenly' knowledge of the poet is, in its essential character as knowing, in no way different from the 'mundane' knowledge of the scientist and the ordinary man. Regarded from the point of view of its content it may be fuller and more perfect, as the poets themselves would claim, but from the point of view of the knowing act involved and of its functioning, it seems to be identical in nature with the types of knowledge discussed earlier. Such is the suggestion we make.

We have no space left in which to consider other branches of art, such as painting, music, sculpture, and so on.¹ Nor can we discuss here another type of knowledge, which may be regarded as 'transcendent' in character, namely, that which makes possible the moral life. Perhaps, in no sphere are there problems so difficult of solution as those which face the moral philosopher, and, at the present stage, we prefer not to venture any opinion whatever with regard to them. We may, however, justifiably point out what is, indeed, common knowledge, that the moral life is not achieved easily. Here again a struggle is involved—a struggle, moreover, which is two-sided. For while it is no easy matter to know what path we ought to tread, it is even more difficult to tread it in actual practice. From the point of view of an epistemological inquiry, of course, the gaining of new moral knowledge would be the more interesting feature, though no doubt the effort at living out what one perceives to be the good life would itself lead to a deepening of our knowledge and could not be ignored. Further, the imperative which commands us unconditionally to do that which we

¹ It may be objected that in taking the case of the poet whose purpose it is to gain knowledge we have not really been dealing with an artist at all, since it can never be the purpose of an artist, as artist, to gain knowledge. If this be true, we agree that the instance taken is unsatisfactory. But, on that hypothesis, the consideration of art would not come within the scope of this essay.

determine to be the right thing in the circumstances would itself need examination. With regard to the gaining of new moral knowledge, however, we should be tempted to say that moral knowledge is a direct apprehension of truth, though an act of apprehension which could not occur without, and except through, the prior occurrence of certain auxiliary processes which make the apprehension possible. What these processes are we do not here profess to explain.¹

Finally, to consider the matter of 'transcendent' knowledge adequately, we should have to devote very serious attention to religious knowledge and to faith. Now in so far as we use this latter term to express a kind of knowledge, we may mean by it one of two things. In the first place, little more may be meant than hearsay knowledge, as when one knows a matter not through finding it out for oneself, but by hearing about it. (Most of our everyday 'knowledge' is of this kind.) Thus by faith is often meant simply the acceptance of the dogmas taught by some religious body or other—dogmas which profess to be truths gained earlier in the history of that religious body. Of course, if the acceptance is sincere and not merely nominal, faith, even in this sense, does involve some measure of finding out for oneself. The sincere believer does not blindly swallow everything offered him. In the last resort, he can accept nothing which openly conflicts with his own experience and thinking. He *does* accept a position without having discovered the full truth about it for himself; nevertheless, as much truth as he has discovered seems, taken all-in-all, to point to the truth of this position. In such a case faith is the theoretical counterpart of trust. When I say I have 'faith' in a person or 'faith' in some project my use of the word implies that I do not know for certain at the time how this person will act in the future, or whether the project will turn out in the hoped-for manner. But my knowledge of the person, and again of the project, is sufficient to make me feel fairly confident as to the

¹ Where we fail to gain complete certainty on a moral issue, we may either gain a measure of probability or suspend our judgement entirely.

issue, and though I have no certain knowledge I have 'faith'. No doubt, much religious 'faith' is of this kind, and for beings who are not omniscient (but who have yet to live and to act) such 'faith' is a necessity. We accept on hearsay a dogma and believe in it because it confirms our knowledge and our own experiences and even explains them. What we know in no way establishes the dogma's validity; but it points the way of the dogma; and so we accept the latter though we ourselves did not discover it for ourselves but learnt it from another. Frequently, we mean no more by faith than this acceptance on our part of another's discovery in the religious sphere.

In the second place, however, we may mean by faith the first apprehension of such dogmas, the 'inspired' knowledge of religious genius. Such knowledge, it is only too clear, differs radically in one important respect from the knowledge of everyday things. When I know the material world around me I know it, we usually imagine, by my own efforts. In such a case, we should not ordinarily say that the object known helps me to know. When, however, I know some other mind the object here may help me to know. I know more about my friend than I do about a perfect stranger, and this because my friend has in part 'revealed' himself to me. The object known has helped the subject to know. Now in the case of religious knowledge the object is God, Omniscient and Most Perfect. Hence, if man learns of God it can only be because God Himself imparts the information. Knowledge of God cannot be conceived as something which we ourselves discover by our own unaided efforts. On the contrary, we naturally feel that if we know Him at all, it must be because He himself has chosen to reveal Himself to us. Man's knowledge of God must be revelation; in it God Himself discloses to man His own nature. The term 'revelation' should be retained. It aptly describes this most characteristic feature of man's religious knowledge. Yet, granting that here the subject-object relation is of a unique kind, there is still no necessity to suppose that the actual knowing is different in character from all other instances, for it is quite conceivable that God might choose to reveal Himself to us by

way of the ordinary channels of knowledge. Our knowledge in this instance may proceed in a fashion identical with all other knowledge, the only difference being that we cannot suppose this knowledge could ever occur were it not God's will that it should. But is faith, then, as the religious genius's knowledge of God, actually identical in nature with other kinds of knowledge, or is it distinct in kind?¹

Again, we can only suggest the possibility of an affirmative answer. In the first place, the prior struggle which we have come to expect is obviously present. However strong and pure be man's desire to know Him, God does not quickly reveal Himself. The greatest religious teachers that humanity has known all unite in this testimony that God is to be found only by dint of ceaseless search. And, certainly, few ideas show slower development historically than does the idea of God. If God is to be known at all, He cannot be known in any effortless way. First there must come, as a necessary precondition, a process—in all cases arduous and prolonged—in which the mind is prepared for the knowledge of God. What everyone would wish for, if he once thought it possible, namely, the immediate attainment here and now of a complete knowledge of God, is, as a matter of fact, wholly impossible. The religious genius gains his insight into God's nature gradually. Always, so it would seem, there must be a preparation of some sort through which alone that insight can become possible.

But in what does the preparation consist? Do we seek Him through the medium of logically constructed processes of thought, or through our imaginative and emotional experiences? Clearly both media have been used. Philosopher and poet have each sought for God in each his own way, and on occasion both claim to find Him; while, often enough, since there is something both of the poet and philosopher in every man, the two methods have been combined. The mediation, that is to say, is not

¹ Throughout the above paragraph I have been following so closely upon Professor C. C. J. Webb's argument on this matter—which seems to me very sound—that I must here be allowed to acknowledge the debt.

invariably 'logical' in our sense nor invariably imaginative, but may be either or both. Nor are these the only ways of approach. On the contrary, it would seem as if every path that leads to knowledge, of whatever kind, can be utilized in the search for God.¹

In the second place, the experience would be impossible had we not power to know, and were not this power actualized, in the experience. For though we admit the uniqueness of this instance of knowledge and recognize in it God's revelation of Himself to man, nevertheless man must be capable of receiving the information imparted to him, he must himself possess the power of apprehending the Object. After appropriate preparation the knowledge comes like a flash to the active mind. Religious knowledge cannot be a passive experience. Revelation is only possible in so far as man possesses power to know and to apprehend. Thus, though the faith of the saint, as a cognitive experience, may differ greatly from our ordinary everyday knowledge, there nevertheless pertain to it certain general characteristics which belong to human knowledge in every sphere. Through some process or other a capacity is liberated, what is potential within us is actualized, so that we attain knowledge of the Object.

All mystic literature is a constant re-emphasis of this truth. Every man, whatsoever his estate and condition, possesses within him potentially the knowledge of God. The Light is within, even though at present it be enshrouded in darkness. Consequently, the mystic consciously sets himself the task of actualizing the potential. He seeks a Way, whereby he may attain the fullest experiences possible. Firstly, he holds, there must be a purifying, a moral disciplining, a giving up of the 'life of the flesh'. Secondly, Wisdom must be diligently pursued. Not only must the 'flesh' be conquered, but one's place in life must be learnt. This understanding of life is gained in many ways. It may be gained by way of science and philosophy,

¹ Frequently enough, for instance, a fuller consciousness of the moral life and of its demands has led to an increased knowledge and understanding of God.

or by way of religious devotion, or by the contemplation of the beautiful, or even, lastly, by faithful and long-sustained service to one's fellow-man. By such moral disciplining and by such acquisition of Wisdom the soul of man is prepared for the beatific vision of God. If the Way be truly and faithfully followed, then gradually our faculties will be freed, the obstructions which encompass the Light within will be removed, and the highest knowledge together with the noblest emotions will be ours.¹

At this stage the knowing act within will be freed completely. Its final emancipation will have occurred. In such a case, if we know at all, it will be with God's knowledge, which differs from finite knowledge in that nothing ever hinders its functioning. At the finite level it is only with difficulty that we can conceive of such an experience and we cannot feel sure that 'knowledge' is the right term to apply to it. Yet implicit in the position of these mystics is the belief that, in the last resort, our knowledge is not completely different from God's. The Light within each soul is already something divine. The knowing act itself, it is implied, is infinite. It is its opposite, that which hinders its operation and that which we must first overcome and remove if we wish to know—it is this, which is finite in the cognitive experience. God's knowledge, on this view, actually is what our knowledge would be if the power to know within us were liberated not spasmodically, here and there, but everywhere and in every circumstance.

But, at present, we do not wish to follow out this extremely speculative line of thought. Our task is a humbler one. As the conclusion of our reflections in this section we are not able to

¹ It is necessary, however, to note one important modification. The mystical consummation of man's experience, the last stage of all, is not the mere knowledge of God. Higher than knowledge of God is unity with Him. When both the intellect and the emotions of man are developed to their uttermost, then, at such transcendent moments, one's self will be merged within the Divine. One's will, one's thought, one's emotion—so the mystics claim—become God's; though, indeed, it may very well happen that we ought no longer to speak of will, thought, and emotion in this context.

offer any demonstrated facts. We can only make a suggestion, which seems to us to be truer in this connection than any other, namely, that the highest cognitive experiences of which man is capable are not altogether different in nature from our more ordinary cognitive experiences. They share many characteristics in common with the latter. The mystic's striving through years of patient labour for a completer insight into the Divine Nature, the storm within the artist's mind before the vision flashes upon him, the conflict of desires and the 'inward argument' which precedes the intuitive apprehension of one's obligation and duty—is there not here something analogous to the intellectual struggle, the mediation presupposed by each new act of knowing in the sphere of discursive reasoning? And does not the analogy hold, we suggest, because in their ultimate nature all these experiences are one and the same? They are all finite cognitive experiences, that is to say, experiences in which the mind, already possessing the power to know, can nevertheless only know in certain definite conditions which must first be secured. Now, if this suggestion is sound, then the 'transcendent' knowledge of inspired genius does not differ fundamentally and in kind from the 'mundane' knowledge of the ordinary man. Genius, in all these manifestations of it, seems to be the consequence of a better use of one's faculties, resulting in a more complete liberation of mind than is usual. But these faculties do not belong to genius alone, they are latent in all of us. The inspired person follows a path that all may follow, and that everyone, indeed, actually does follow whenever he succeeds in gaining new knowledge by whatever method.

Thus, as we see it, there is no greater mystery in the knowledge of the genius than in the knowledge of any one of us. The real mystery is the act of knowing itself—if that which is so natural to us as to be, perhaps, what we most essentially are can actually be termed 'mysterious'. If it were possible to explain this act of knowing, the core of all our cognitive experiences, the further difficulty as to the nature of the higher knowledge of inspired men could hardly prove insurmountable.

The real problem for the epistemologist, who seeks not only to describe but also to explain, is to discover the source of the mind's cognitive power, which is as clearly present in the everyday knowledge of the man in the street as in the superb vision of genius. From this point of view, the lowest type of knowledge is no less remarkable as a phenomenon, even though it emerge in those experiences which we share with the beasts of the field, and even though all the information it has to give is of some drab corner of the world around us.

2

The Intuitive Character of the Knowing Act

In this section we propose to argue that the knowing act is intuitive in character. On our view, no other term more adequately expresses the characteristic nature of the knowing act whenever and wherever it occurs. But if we use the adjective we must make clear what we mean and what we do not mean by it. For a loose use of the term is dangerous. There is a healthy tendency nowadays in philosophical circles to deprecate the over-frequent usage of the term 'intuition'. Too often in the past its use has conferred an appearance of wisdom upon what is actually loose thinking, and on many an occasion it has served as a cloak to hide real failure. It is, assuredly, one of the easiest terms to misuse; and, whenever it appears, one should be on one's guard against the intellectual laziness of which it is a frequent sign. For the term readily lends itself to false usage. This is, perhaps, due to the fact that by an 'intuition' we frequently mean an experience which we have or do not have, but which is not further analysable into anything other than it itself. Consequently, simply to avoid greater mental effort, a lazy thinker will be tempted to call every experience, which he finds difficult to analyse, 'intuitive'. The inevitable result is that the term has become suspect.

Nevertheless, we consider the use of the term justified in the

case of the knowing act. The knowing act is an intuition. This does not mean, however, that the whole cognitive experience is through and through intuitive; for the knowing act is not the whole but a part only of that experience. The fact is that we have failed to find an instance of the perfect knowledge for which we seek in this essay, an experience through and through knowing and nothing else. None the less, we have discovered true instances of knowing, and we claim for each instance that it is intuitive in character, though the knowing in each case is only a part of a larger experience. This is obviously true of our everyday experiences. And it seems equally true of any higher experiences we might enjoy. For even though we were to admit that the genius enjoys supreme moments in which the mind is, as we say (speaking loosely), filled with illumination or inspiration, yet such moments are essentially parts and parts only of knowing experiences, and each part is dependent upon the rest of the experience to which it belongs. The moment of complete insight is the consummation of a whole experience, and is only isolated from it by a definite act of abstraction. Though we recognize the presence of real differences, both objective and subjective, between 'transcendent' and 'every-day' cognitive experiences, these differences are yet not sufficient to destroy the general identity of character which, so we argue, persists throughout these experiences. In the two groups, the whole cognitive experience is a process involving the liberation of the knowing function on the one hand, and its actual functioning on the other. Now this functioning, this act of knowing, seems to be identical throughout; and throughout it is intuitive in character.

Moreover, we should say that the knowing act is the sole intuition. By this we mean that it alone satisfies our notion of what an intuition should be. It is direct and immediate knowledge. Its object is the real, not a representation nor a copy of it. It is no process, but is an act of apprehending—and this, though we admit that whenever we find it it is embedded in a process. It is *sui generis*, like nothing other than it itself. It is a unique form of mental functioning, and, finally, it is infallible.

These characteristics which pertain to the knowing act do, we believe, justify us in terming it an intuition, and since the knowing act is alone in possessing all these properties we shall use the term exclusively to signify knowing in this sense. For the sake of precision and consistency, therefore, we shall reject certain other usages of the term. For instance, we shall not call the hypotheses of the brilliant scientist 'intuitions'. He only intuits, in our sense, when he knows with certainty. Nor shall we talk of a woman's 'intuition', when we merely mean a form of shrewd guesswork. Nor again shall we use it in speaking of animal knowledge, if such knowledge be held to differ in kind from human knowledge.¹ Nor, finally, shall we continue to talk of 'sensuous intuition', if by this be meant the 'receiving' into the mind of a 'given' manifold, the affection of the mind in sensation. We shall reject all these usages of the term and confine it strictly to the act of knowing the real.

The use of the phrase 'sensuous intuition', indeed, deserves more than a passing notice; for it leads to much confusion. By it is meant the seeing of the colour, the hearing of the sound, and so on. Now if we term these 'intuitions' we already suggest that they are instances of knowing. For to call something an 'intuition' is to give it a cognitive character. It is impossible to rid the word of that suggestion. Accordingly, when the naïve person refers to the seeing of the colour as a 'sensuous intuition' the phrase exactly expresses his meaning, since just seeing a colour is for him a knowing of the real. The critical person, however, cannot but be confused. He has realized that seeing a colour is not in itself an instance of knowing the real, as the naïve person would claim. Yet if it is an 'intuition' it must, he also realizes, be a knowing of some kind. Hence his difficulty. As a consequence, he is frequently led to talk of vague knowing, or of half-knowledge, or of something which is just-not knowledge; and the result is confused thinking. In other words, by

¹ In these pages we have not thought it necessary to consider at length the alleged 'instinctive knowledge' of the lower animals, which, so some would urge, differs in kind from human knowledge. Our concern throughout is with the latter.

terming the seeing of a colour and the hearing of a sound a 'sensuous intuition' we are, to a certain degree, prejudicing the case from the outset. The very terms we use imply (whether we wish it or not) that seeing a colour is itself a knowing, and if we wish to avoid the implication we must avoid the use of the term in this connection, even though we feel that the word 'intuition' does express some of the qualities which can be attributed to seeing a colour—for instance, its directness. Furthermore, the use of the term makes a sound analysis of sensory experience well-nigh impossible. For its adoption is almost sure to result in an ignoring of the true knowing act present in the sensory experience. The full attention is bestowed upon the mere seeing of the colour, and by terming the latter an 'intuition' we suggest to ourselves and to everybody else that we are continuing to recognize the cognitive character of the sensory experience, although, as a matter of fact, we are completely ignoring it. The result is that we deceive ourselves, for, becoming critical and realizing that such a sensory experience (thinking of it as merely seeing the colour) provides no direct knowledge of the real, we still think that in some vague fashion the seeing of the colour is a knowing. But if some other term had been used for the mere seeing of the colour, it would then be clear that the experience (if it is merely seeing a colour) is not cognitive at all. It would be clear that some essential element had been completely ignored. Our use of the phrase 'sensuous intuition', however, hides this all-important truth from us. Knowing becomes in part a 'reception' of a 'given', and in part a doing of something with this 'given', a constructing, a forming, an ordering of an objective world which exists as a vague shadowy structure of our own creation. And this confusing consequence, together with the resultant scepticism, is, we feel, the outcome of a false analysis of the sensory experience, whose falsity, we suggest, tends to be hidden from us by the use of the phrase 'sensuous intuition'. For this reason, therefore, we consider the term 'sensuous intuition' an exceedingly dangerous one.

We confine the term intuition, then, to the knowing act. In

our opinion the term can be applied with justification to it alone. The reader, however, may well hesitate on one point before accepting our view. He may agree that knowing as such is something direct, immediate, and *sui generis*. He may also agree that it is not a process. In so far he would be prepared to term it intuitive in character. But an intuition, he feels, ought to be infallible.¹ Now nothing is more obvious than that human knowledge is fallible. How, then, can he—and how can we—call human knowledge ‘intuitive’? The reader will have here touched upon a vexed question. But though the question he asks is not easily answered, we have no right to shirk it. For the sake of clearness we shall first put forward in one sentence the answer we suggest, after which we shall give reasons for holding it. The knowing act itself, we suggest, whenever it does occur, operates infallibly; but the concrete human cognitive experience taken as a whole is fallible.

We have assumed throughout this essay that human knowing is a fact. We admit that we have given no definite proof of this, and, more, that no completely satisfactory proof of it is—or ever will be—possible. Against a thorough-going agnosticism we cannot bring a single argument. If the fact of knowing be granted, however, then it means that when a man is convinced that he knows he does, at least sometimes, know. Now if it were possible to show that his failures are due not to the functioning of that which we have called the knowing act but to something else in the whole experience of which the knowing act is part only, it would then be clear that the conviction which the knowing act inspires is completely trustworthy. What we are saying is that a man may be convinced, that is, satisfied in his mind and yet err—this certainly cannot be denied; but that there is also a deeper conviction which cannot mislead. To say that this latter ever does mislead is to adopt agnosticism straightway. For, if it fails us once, we cannot trust it on any other

¹ Most thinkers would agree that the term ‘intuition’ should be used to signify a knowledge which is infallible, and this is the view we adopt in these pages. To deprive it of this meaning would be, in our opinion, to emasculate it considerably.

occasion. Our present task, therefore, is to show, in so far as we can, that the act of knowing itself is never erroneous, that error always enters in some other way.¹

One type of error, frequently experienced, is obviously not due to any fallibility in the knowing act. We mean the type found in learning by testimony. The testimony may be of two kinds, firstly, that of other persons, or, secondly, that of our own memories. In the former case, error can easily enter. If I accept as true something which I have not seen to be true for myself, I may find later that I have fallen into error. Where we have to rely upon hearsay 'knowledge' we cannot rid ourselves completely of this possibility. The most reliable source of information sometimes fails us. Nevertheless, reliance on others in this sense is a necessity. For practical purposes we are frequently compelled to take another's word on a particular point. Especially does this hold true of ages and civilizations in which learning is advanced and in which specialization cannot be avoided, for then, because of our inevitable inexpertness in certain realms, we have to learn many items of knowledge not by finding out for ourselves, that is to say, speaking strictly, by *knowing* them ourselves, but by accepting the information given by another with regard to them. Now in such a case the important point is that our error, were we thus to accept what is not true, cannot possibly be due to the functioning of the knowing act and does not make the latter fallacious, for merely to accept something as true on the word and authority of another is not to see its truth for oneself. Again, one's memory may fail. I may learn by rote at some time or other an item of knowledge originally gained either by directly apprehending it myself or by taking it as true on the authority of another. But later in recalling what I knew I may falsify it, usually because I give insufficient attention to the work of recollection. Now the term memory is, we admit, ambiguous and the problem of

¹ It seems hardly necessary to add that we do not mean spoken conviction in the above paragraph, for we sometimes *say* that we are convinced when we are not, and, occasionally, the less convinced we are the more vehement our speech becomes.

memory supremely difficult. We do not here propose to discuss its nature. But when we mean by remembering remembering by rote, as in the present case, then remembering something obviously is not the same as knowing it.¹ And since this is so, a defect in the work of memorizing, as in the above instance, cannot rightly be attributed to the act of knowing. What we learn by testimony, therefore, may be erroneous, but in such a case our taking it as true is no failure of the knowing act. Slightly different from these instances, but worth mentioning none the less, is that type of error which arises from a defect in the media through which we communicate information to each other. For instance, on a walk, I may see a person in a field nearby and ask him the distance to the neighbouring town. He knows that it is ten miles away and shouts it back to me. But his voice is not clear, or the wind is high, and I hear, "Seven". Surely the resultant error is not attributable to any defect in my power to know—nor, for that matter, in his. We need not further analyse these instances of erring, for all we wish to prove is that the knowing act as such is infallible, and in these cases it cannot possibly be held responsible for the occurrence of error.

But in the above experiences the knowing act is absent, though it may be presupposed, for instance, in the knowing of my informant, or, again, in my own knowing of what I now recall. My 'knowledge' by hearsay and my bare remembering by rote, however, are not, as such, acts of knowing. Yet there are other cognitive experiences which involve intuitive acts of knowing, and which, none the less, are fallible. We must now consider these. Is their fallibility due to a fallible knowing act? Since we have just been considering the case of memory, we may begin with the consideration of erroneous cognitive experiences involving memory. Here is one such case: I see

¹ The case of erring in remembering a past event by recalling it in imagination is more difficult. No doubt cognitive elements are definitely present here. We cannot consider this case fully, however, without at the same time essaying an exhaustive analysis of the memory experience.

directly that certain premisses involve a conclusion. I take these premisses to be true and accordingly assert the truth of the conclusion. The information contained in the premisses, however, is simply remembered by me; and it may be false. If I then use the falsely recalled information my conclusion will be erroneous. Many errors in calculation can be accounted for in this way. As an instance, we may take the simplest form of calculation, namely, arithmetic. No one in his senses would say that twice one are equal to eight. We immediately 'perceive' that twice one is two. But if we were given a more complex multiplication problem, running into many figures, we might, owing to the strain upon our attention and the consequent mental fatigue, slip into taking seven times seven as being equal to fifty-six instead of forty-nine. The error would be due to the fact that we were simply recalling, without 'perceiving' the truth for ourselves, as when I 'perceive' that twice one are two.¹ The defect lies not in the knowing act but in the memory. Very many errors in calculation (not only in arithmetic, but also in other spheres) are of this type. They result from the fact that memory gives us false premisses. And frequently, in such a case, our conviction that the premisses imply the conclusion is so strong that we accept the conclusion as absolutely (and not only provisionally) true, and even feel convinced about this. If in such a case, however, the conclusion is not true, our error can be attributed to a double defect of memory. For, firstly, we faultily recollect one (or two or many) of the premisses, and, secondly, we completely forget that the premisses are unverified. If we remembered the latter point, our conviction as to the truth of the conclusion would speedily vanish. Now in such an experience as the above the defect which produces the error does not lie in the knowing act, for, though our premisses are false, it still remains true that they do imply the conclusion. The defect lies in the memory.

¹ This fact is confirmed by our having frequently to 'run over the whole table' when in doubt. Clearly, we are simply seeking to recall something previously learnt by rote.

But not all human error originates in a defect of memory. For, as we see it, the type of error which is most prevalent finds its source elsewhere. It originates in man's impulse to complete the incomplete—an impulse which in itself is perfectly legitimate. Our curiosity is such that we cannot remain satisfied with part-knowledge. And in our haste to press forward towards omniscience we frequently mistake something which is not knowing for knowing. Hence, error becomes possible. Knowing a part, we 'take' a whole; but, frequently, the 'taking' is not a knowing, and if we think that it is we fall into error.

In this way we frequently mistake the probable for the certain. So long as we are clear in our own minds about the probability of the probable and neither think of it as, nor claim it to be, certain no error is involved in its assertion. But the moment we assert, or even implicitly assume, in our haste for finality, that the probable is certain, then error has already entered. So much is obvious. (In much the same way, we also err if we assert that what is really improbable is probable or that something has a greater or less degree of probability than it really has.) But how do we come to make the mistake of supposing the probable to be certain? Now, knowing and opining, we hold, are two states of mind distinct from each other, and if sufficient care is taken it is always possible to distinguish between them. I may be in a state of knowing something with certainty, as when, for instance, I see that the premisses of a syllogism imply the conclusion; or again, I may be in quite a different state of mind, namely, opining, as when I believe that a conclusion gained inductively is probably true. The latter is simply a well-grounded opinion, though an opinion which may be grounded upon much certain knowledge gained previously. (The better grounded the opinion the more knowledge is presupposed in it.) Now it is possible for a man to ignore the probability of the probable and to believe, for the time being, that it is certain. It would, no doubt, be an exaggeration to say that he forces himself to believe this. But he ignores that which would establish the mere probability of his belief, and so imagines that he knows. His state, however, is

surely different from that of the man who does know and knows that he knows. The conviction of the latter is not his. He has just stumbled into a kind of conviction or into belief, as the result of ignoring certain evidence. And what we suggest is that his lapse is the consequence of a desire—natural to man—for certainty and finality in knowledge. He has opined that such and such a position is sound and has slipped into the belief that his opining is knowing. But his opinion may be unsound, as all opinions may. Though he thinks it to be knowing it is still fallible. Yet this fact, namely, the fallibility of his experience, cannot be used as an argument to prove that knowing as such is fallible, for knowing as such is *ex hypothesi* something different from his state. "But," it may be objected, "ought we not to face the possibility that we are always in his state? May we not always be in the state of thinking or believing that we know without really knowing on any single occasion?" Here, the objector would be admitting the distinction between the two states, whether there actually exists an instance of real knowing or not, and this admission is sufficient for the above argument. For all we wish to maintain is that we cannot prove the knowing act to be fallacious by saying that sometimes we err even when we imagine we know. The latter state is not really an instance of knowing with certainty, but of imagining that we know with certainty—a very different thing. As to the actual existence of certain knowledge, we assume throughout this essay that we do sometimes know with certainty, and are not always, when we claim to know, mistaking a well-grounded opinion for certain knowledge. We cannot see that any other answer to the objection is possible. If the objector persists in doubting the existence of any certain knowledge, nothing more can be said on that head.

We occasionally then mistake an opining for a knowing, but the fallibility of what we thus take to be knowing is no argument for the existence of a like fallibility in knowing itself. That we can so mistake something else for a knowing, and that we do so in order to satisfy our desire for complete knowledge, is confirmed by the attitude of the naïve sensationalist. His

error is perhaps the deepest and most fundamental of all. He mistakes not opining, but sensing for knowing. To the real actually known by him in the sensory experience he applies the content gained in the mere seeing of the colour, hearing of the sound, and so on, which—so we argue—are not in themselves instances of knowing at all. And so he senses a 'real' world, as he thinks, of things having colours, tastes, smells, and so on. An activity of the mind, namely, the seeing of the colour, is assumed to be a knowing, when actually it is nothing of the kind. The mind desirous of a fully-determined and well-qualified reality applies the content of sensation to the real, exactly as if seeing the colour were itself a knowing of the real. In just the same way and for the same ultimate reasons the man of science may occasionally dress up the general structure of the real whose nature he has apprehended in the garb of imagery and hypothetical conceptions, and fall into believing that the skeleton so clothed is the fully real, and so forget that his 'world' is partially true only. In all these instances the error lies in our tendency to take as knowing what is actually not knowing, and the source of the error is our desire for completion and totality in the objective world. In no case can the error be said to result from a defect in the knowing act itself. In no case do we find that the direct apprehension of the real has itself given, instead of truth, error.

We have here considered the main types of error. No doubt, however, there are other types. To be truly exhaustive we should have to consider every possible instance of error. Failing this, it would be a good exercise, if we had the space to spare, to consider in detail each single instance of the 'logical' and 'material' fallacies set forth in works on formal logic. We venture the opinion that here again we should never meet with an instance of a cognitive experience, in which the error could be attributed directly to the knowing act. Its source would lie elsewhere, namely, in the whole mental preparation for the act of knowing. But to carry out even this reduced task would be to pass beyond the scope of the present essay, and we shall not attempt it. We have stated earlier, however, that while we

admit the fallibility of the cognitive experience taken as a whole, we cannot admit the fallibility of the knowing act as such. And our (admittedly incomplete) consideration of the main types of error certainly substantiates this position. The reader, as we have suggested earlier, may feel a certain hesitation in conceding the intuitive character of the knowing act on account of the patent fallibility of our cognitive experiences. But if he now agrees that what applies to the whole cognitive experience need not—and does not, so far as we can see—apply to the knowing act as such, then we shall have done something to remove his qualms, and he will be in a better position to accept our general thesis. What we urge is, firstly, that the whole cognitive experience is not merely knowing, in the strict sense, it is also a seeing or an opining, a conceiving, an ordering, a classifying, and so on; and, secondly, that error has its source not in the knowing act, as such, but in some other part of that whole experience.

Hence it is quite possible to hold, so far as the present evidence goes, that the knowing act possesses, together with all the other qualities mentioned, this further quality of infallibility, and that it is rightly termed an 'intuition' even in this sense. The error in the whole cognitive experience can be traced, we believe, to sources other than the functioning of the knowing act. We have, of course, never tried to prove that the cognitive experience in man is infallible; such a project could only be undertaken by a person who very foolishly closes his eyes to some of the most obvious facts of our finite experience. We merely make the claim that the term 'intuitive' can be applied to the act of knowing itself (which is part only of the whole cognitive experience) and that it can be so applied even though we recognize that anything which is intuitive must be infallible and cannot of itself be the source of error. None the less, the whole cognitive experience is fallible, for it invariably, so far as we can see, includes within it a preparation of some kind for knowing, which preparation may be defective, as when our premisses are false in reasoning. We can find no instance of a cognitive experience which is simple, in the sense that the

whole experience consists of knowing (or intuiting) and nothing else. Therefore, the infallibility of the knowing act cannot in any way be taken to imply a like infallibility in the whole cognitive experience. We may err; but the error does not originate in the knowing act. The latter is in the full sense of that term an 'intuition'.

CONCLUSION

WE are now in a position to draw our conclusions. These are hypothetical in character; that is to say, we do not wish to claim that this essay has finally established their truth. We are content to put them forward almost in the nature of suggestions, and had best present them in the following form: The problems connected with epistemology are more likely to be solved, we think, if we accept as working hypotheses two positions. The first, that knowing, as such, is one and the same throughout, whatever the form of the whole cognitive experience; the second, that this knowing, identical in character throughout experience, is best described as an intuitive apprehension of the real. We believe that the inquiry, now concluded, fully justifies us in making these suggestions.

In emphasizing the first point, that knowing as such is identical in character throughout experience, we definitely deny the existence of so many types or kinds of knowing, each distinct from the other. The evidence when carefully considered supports the denial. We do not believe, for instance, that sensing is one kind of knowing, and that discursive reasoning is another, whilst intuiting is still a third completely distinct type. The real differences that exist between these cognitive experiences do not lie in the knowing as such. They lie elsewhere. Thus, the affection of the mind in sensation—however it be explained—is, we believe, an occasion for the occurrence of knowledge. But this knowledge, we affirm, is an intuitive apprehension of the real and does not differ in kind and character from knowledge on any other occasion. Or again, we may consider discursive reasoning. By terming a cognitive experience 'mediate' we convey the suggestion that the knowing present could not occur without a prior process of some kind, which liberates the knowing faculty, and enables the mind to know. Together with this we may also mean that this knowledge which we term 'mediate' is of an implication, so that we come to know indirectly something about the subject of the conclusion at which we arrive by knowing the implication directly. But the

actual knowing in discursive reasoning again is direct and not at all different, so far as we can see, from knowing in the sensory experience or from any other instance of knowing wherever it occurs.

But while we emphasize the identity of knowing as such throughout these cognitive experiences we think it necessary to recognize a difference in kind between the two experiences of knowing and opining. Opining is not knowing become vague. Knowing does not shade off into opining. The difference between the two is, in our opinion, absolute. When I opine I am not certain; when I know I am certain. We have not sought in these pages to give any account of opining, since it would not be strictly relevant to the matter in hand. Our concern has been with knowing and not with opining, however well grounded it be. Unfortunately, however, the human mind can, as we have already pointed out, mistake an opining for a knowing. We can fall into believing that we know when we are only opining. And this makes our sole criterion in knowing, namely, our own conviction that we are now knowing, untrustworthy. None the less, no other criterion exists.¹ Our only method of procedure is to subject our convictions to every possible test, to free our minds from all prejudices, to be very careful that we have not mistaken what is not knowing for knowing. And if after every possible test is made we are still convinced, then we can rest.

¹ It would be of no avail to say here that coherence or correspondence is a criterion. For what we mean when we make such an assertion is that when I learn, for instance, that some theory or other is inconsistent with itself, I know (and am convinced that I know) that it involves falsehood. But if I am asked how I know this, I can only answer that I am convinced of it. My criterion is my own conviction. I know that I know. And I make my appeal to another on the confident assumption that his mind also possesses power to know, and that he will be as convinced of the impossibility of the self-contradictory as I am of it. That is to say, my ultimate appeal is not to the fact that the self-contradictory is impossible, but to the fact that I am convinced, and that you too, I confidently assume, will be convinced, that the self-contradictory is impossible. It is this conviction which is the ultimate criterion, and it alone.

assured that we are knowing. It may, of course, be said that we can never feel sure that every test has been tried and that, therefore, an element of doubt will always remain. But it is our assumption throughout that knowing does occur. And we believe that there are experiences where doubt never enters, however careful we be. Instances are to be found in the mathematical sciences, but are in no way confined to that sphere. We know the so-called Laws of Thought with complete certainty; but better still we frequently see that one thing implies another beyond the possibility of any doubt. Our suggestion in these pages is that the conviction which the knowing act brings in its train is wholly trustworthy; that the untrustworthy conviction arises from a mistaking of an opining for a knowing. And though it is difficult in actual practice to distinguish between the two, yet the untrustworthiness of the latter cannot be attributed to the former. Meanwhile our own experience leads us to assert—though it be an assertion without proof—that the former type of conviction does most certainly exist, that occasionally we do most certainly know in the strictest sense of that term.¹

In the second place, it has been our purpose in this essay to describe knowing as accurately as possible. And the conclusion to which we have come is this one: that if we do wish to describe knowing in terms other than it itself, that is to say, if we wish to say something more than merely that knowing *is* knowing, just as seeing blue *is* seeing blue, then the most appropriate description of knowing, in our opinion, is 'an intuitive apprehension of the real.' We have already shown why we use the word 'intuitive' in this connection and we need not repeat the argument. Also, we have considered the word 'apprehension', and have decided that the analogy which it suggests is most suitable for expressing the character of this knowing act. Finally, we have assumed from the outset of this essay that the object of knowing, when it actually occurs, is

¹ We ought, perhaps, to add that where knowing does not occur, opining is extremely valuable. We made this plain in the third section of the second chapter.

the real, what is; and that it is ridiculous to suppose otherwise. Knowing, therefore, we suggest, is best described as 'an intuitive apprehension of the real.'

As a final word we shall add that our use of the phrase 'a knowing *act*' in this essay is also, in our opinion, justified. The apprehension is an act. By which we mean to convey, firstly, that knowing as such is not a process. We believe that to think of knowing as a process is to misconceive its character. This misconception, we think, is the outcome of confusing a process of reasoning which may be a necessary preparation for knowing with the actual knowing itself. The whole cognitive experience in discursive reasoning, for instance, always involves a thought-process; but we cannot see that the knowing itself is ever a process. It is a simple act. In the second place, we think the term 'act' justified because it conveys the further meaning that the knowing is an actualization of a capacity. We possess throughout the power to know, but, on occasion, in the right circumstances, this potentiality is actualized. In this sense, again, knowing is an act. Finally, in the third place, we have been trying to confine our attention, so far as was possible, to the subjective side of the knowing experience, and to the actual knowing rather than to the object, or to the whole subject-object relation. And the use of the word 'act' tends, we think, to keep this fact before the reader. The subject of our inquiry throughout has been that mental functioning which is knowing and which we now think best to describe as the intuitive apprehension of the real.

